

'It's Important to Know In Time'

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The Newspaper of the Industry

Inside Dope

By George F. Taubeneck

York Boy Makes Good
Rural Sales Strategy

York Boy Makes Good

Hell's Belle II, veteran B-26 Marauder snatched from the scrap pile nine months ago, completed its one hundredth bombing mission over northern Italy recently. It carried, deadhead, a former machine tool operator whose mechanical "surgery" saved the ship he wouldn't give up.

He is Pvt. Kenneth L. Smith, former worker in the York Corp. plants at York, Pa., and now the ground crew chief at an AAF base somewhere in the Italian theater.

On her twenty-third mission, *Hell's Belle* barely limped into her base with two burnt-out motors, a smashed rudder, and the entire tail section bent out of shape. During a running battle over Salerno, her formation had been attacked by 60 German fighters. One ME-109 was shot down, and as it spiraled to earth, it collided with the Marauder's tail nearly bringing her down with it.

The *Belle's* tail was patched up, according to Pvt. Smith, but it wouldn't go quite back in line and trimmed rather badly. After looking her over, the regular ship's pilot with a lot of regret recommended that his ship be retired from regular duty—which means scrapped. The poor trim, he said, would make it a flying hazard.

"But we wouldn't stand by and watch a brave ship washed out like that, so we asked for another chance to go to work on her and got it," the ex-machine operator said. "Then we really put her in surgery, tightening, straightening, taking the kinks out of that twisted tail. When we finished with her, she looked like she'd just come off the assembly line back in the States."

After the operation, *Hell's Belle* went back into the lineup and completed 74 more successful flights. On the one hundredth, Pvt. Smith was in a mood to celebrate, so he went aboard as a passenger. He plans another round trip when the bomber roars off the runway on her two-hundredth mission.

Rural Sales Strategy

Farmers, who are all too often behind the eight-ball in our national economy, never have enjoyed the long-range boons engendered by specialty selling. They simply haven't been considered susceptible to "mass selling" methods.

In the first place, only a portion of our active farms are electrified. In the second place, rural cash income prewar did not rank with that of more favored urban groups. And, in an all-important third place, servicing costs on appliances farmers bought were inordinately high because of the distances involved between appliance-owner and appliance-servicer.

(This latter factor has been magnified out of all normal proportions during gasoline rationing.)

Nevertheless, market analysts have for some time been aware of the fact that there is a drive-for-ownership among farm families which is in any period stronger than the normal Pride-of-Possession urge found in urban family groups. Many farm families are beset by an inferiority complex of long standing; that people in the cities live happily a different and better world.

This complex has resulted, over two generations, in a continuing migration from the farms to the cities of the very farm-trained young folks who might most effectively and most usefully invest their lives in

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Air Conditioning & REFRIGERATION

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ASRE Program Of N.Y. Meeting Is Announced

Society Will Celebrate 40th Anniversary Dec. 10 to 13

NEW YORK CITY—Plans are virtually completed for the fortieth annual meeting of the American Society of Refrigerating Engineers, which opens Dec. 10 at the Hotel Pennsylvania here.

Special interest in the fortieth anniversary of the founding of the society, combined with the 40% growth in membership during the past year, will make this meeting one of the largest in the history of the organization, it is believed.

Presentation of honorary membership in the A.S.R.E. to George A. Horne, past president of the society, and entertainment events emphasizing milestones in the organization's growth, are special features of the convention program. New York Section members, under James J. Corey, chairman, will serve as hosts for all social events; the entertainment schedule includes an informal Old Timers' Party on Monday night, Dec. 11, and the A.S.R.E. dinner-dance on the following evening.

Speakers scheduled for the four technical sessions, according to Clifford F. Holske, chairman of the A.S.R.E. program committee, are as follows:

MONDAY, DEC. 11
2:00 p.m.—First technical session, President A. B. Stickney presiding.
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Truesdell Will Head Bendix Radio Sales

BALTIMORE—Leonard C. Truesdell, formerly manager of distribution for Crosley Corp., has been appointed general sales manager for the home radio receiver to be marketed by Bendix Aviation Corp.'s Radio Division, announces W. P. Hilliard, general manager of the division.

Mr. Truesdell has been with Crosley only since last April, having been previously in charge of major dealer development for the Frigidaire Division, General Motors Corp.

E. C. Brode will succeed Mr. Truesdell as manager of distribution at Crosley Corp., according to J. H. Rasmussen, commercial manager.

Tyler Fixture Buys Harder Refrigerator

NILES, Mich.—Harder Refrigerator Corp. of Cobleskill, N. Y., peacetime manufacturer of household and commercial ice refrigerators, has been purchased by the Tyler Fixture Corp. here, announces Jerry Tyler, president.

The Harder firm was founded in 1859 by the grandfather of Frank H. Ryder, president, and George D. Ryder, secretary-treasurer, who have been managing the firm since 1901. Frank Ryder will continue with the firm for an indefinite period to aid in Tyler's expansion program, Mr. Tyler said.

Sam VanderWeg of the Tyler plant will be acting manager of the Cobleskill factory, while Willard Aker, present works manager of the Harder firm, will continue in that capacity.

During the war the Harder company has been producing such items

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Drive For Dealers, Salesmen May Be Started By CRMA

CHICAGO — Postwar Planning Committee of the Commercial Refrigerator Manufacturers Association has completed the drafting of a "platform," designed to increase the bank balances of dealers and salesmen after the war. According to W. B. McMillan, chairman, one of the chief recommendations the Committee will make to the membership of CRMA at the Dec. 1 meeting of the organization calls for a campaign to bring new blood into the industry's distribution system.

In the past, Mr. McMillan pointed out, the manufacturer has devoted more attention to improving his plant facilities and enhancing his own profit position than the quality of his selling organization. As a result, sales effectiveness in the field has deteriorated, incentive has been blunted, and the caliber of the overall industry sales organization was lowered.

As in most other lines greatly restricted by the war program, the Committee found mortality among the industry's sales outlets has been

heavy. However, the majority of casualties, its studies show, have occurred among operators who were content to "get by" on the small income they eked out by offering their equipment at cut prices, making exorbitant trade-in allowances and indulging in other profitless policies that were the bane of the industry in pre-war days.

The efficient operators, who were accustomed to practicing sound business methods, have lived through this period by handling to best advantage the limited volume of new equipment available to them, dealing in used fixtures and expanding their servicing facilities. In fact, many distributors, the Committee finds, have made more money in the war years than ever before in their history. Thus the industry will enter the postwar picture with a strong, well-financed nucleus of extremely profit-minded selling outlets.

One of a series of steps to be advocated by the Committee as a means of attracting new talent is the

(Concluded on Page 28, Column 3)

NEWA Plans Survey of Appliance Distribution

NEW YORK CITY—Charles G. Pyle, managing director of National Electrical Wholesalers Association, reports that the Warranties, Service and Repair Parts Committee of the Appliance Division of that Association has completed preparations for a national survey of the electrical appliance distributing industry.

The purpose of the survey is to determine what the chief problems are now, as well as those likely to be most troublesome immediately postwar, in the servicing, repairing, and guaranteeing of electrical appliances. A comprehensive questionnaire is ready for wide distribution to the Appliance Division membership of the Association and to electrical appliance distributors not affiliated with that Division.

Results of this survey, says Mr. Pyle, will supply this committee with first-hand information not previously available but vital to a proper and adequate understanding of the operations of the industry and possible improvements which may be indicated. It is obvious also, he points out, that the entire industry will be keen to know about the facts this survey will disclose.

Mr. Pyle advises that the final report will be ready by Dec. 15.

(Concluded on Page 28, Column 5)

Kitchen Appliance Preferences, and Why, Reported In National Magazine Survey

NEW YORK CITY—What appliances women want in their postwar kitchens, together with specific figures on their plans for getting them, have been charted by *McCall's Magazine* in a complete report of the results of their "Kitchen of Tomorrow" contest begun last November.

The published report, written up as a guide to consumer tastes for the use of editors and manufacturers, brings out such statistical facts as these:

1. Refrigerator design is due for a change. A wider, shallower, higher refrigerator with four distinct compartments, each with its own door, was voted for three to one over the present single-door deep-box style. Of 11,227 housewives who voted on this question, 73.8% wanted separate spaces in their refrigerators for ice trays, frozen foods, moist cold and dry cold foods.

2. The 6-cu. ft. model will be in-

adequate for the average American family after the war. Accommodations for frozen foods has been partly responsible, but the trend toward larger boxes is a nation-wide preference. Before the war, the 6 dominated the market.

3. Frozen foods will present an increasing proportion in postwar food marketing, and both space in their refrigerators and separate cabinets were asked for by an outstanding majority of the housewives who expressed their opinions. People living in small towns and rural areas close to fresh food supplies indicated the largest market for separate frozen food lockers.

4. More than half of those answering were happy about their refrigerators and ranges, finding their kitchens bright and cheerful. Highest discontents were with preparational and storage facilities—counters, storage units, kitchen layout.

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ACRMA Maps Postwar Action For Industry

Plans Drive to Obtain Much Larger Share Of Nat'l Income

HOT SPRINGS, Va.—Long strides toward integration and rationalization of the industry were taken here Nov. 2 and 3 when the Air Conditioning & Refrigerating Machinery Association drew up a chart for postwar action.

Newly expanded on a functional basis, ACRMA has organized the following sections: Room Coolers, Self-Contained Air Conditioning Units, Smaller Compressors and Condensing Units, Larger Compressors and Condensing Units, and Central Station Air Conditioning and Refrigeration Equipment.

Committees of experts from each of these fields got down to business at once around conference tables at the Hot Springs meeting, and laid out strong programs for placing their segments of the industry on a sound, business-like basis.

AGGRESSIVE COMPETITION

All emphasis was placed behind setting up the business so that it can compete aggressively with other industries for a much larger share of the national income than it has hitherto enjoyed.

Notable about the Hot Springs meeting was the presence of so many chief executives—men who could make decisions and commitments for their companies right there on the spot.

At the Board of Directors meeting it was determined that a broader statistical program was in order, and authority was granted to add a full-time employee to the executive staff to conduct such a program.

George S. Jones, Jr., vice president of Servel, Inc., was elected to the Board of Directors.

Standards occupied the major attention of the Room Cooler Section, which was presided over by S. E. Lauer, President of York Corp. Other topics discussed included statistics, publicity, state and municipal codes, excise taxes, surplus property disposal, and government policies on reconversion.

A committee on standards was set up by this Section, and charged with the responsibility of working on the following agenda: room cooler tests, maximum test conditions, nomenclature, motor overload standards, and revision of the A.S.R.E.'s "Standard Methods of Rating and Testing Self-Contained Air Conditioning Units for Comfort Cooling."

ROOM COOLER PUBLICITY

When considering possible publicity for room coolers, the Section devoted considerable time to discussion of a unified "theme" for all advertising by individual manufacturers, and agreed that this idea was one of the most important on the docket. Some thought was also given to the possible usefulness of an ACRMA bureau of information.

Chrysler Airtemp's D. W. Russell presided over the organizational meeting of the Self-Contained Air Conditioning Unit Section. Much preliminary time was spent here in attempting to arrive at clearly differentiating definitions of "self-contained air conditioning unit" and "room cooler." Although progress was made, it was decided to clear these definitions with the Room Cooler Section before making them official.

(Concluded on Page 2, Column 3)

Harder Refrigerator Sold To Tyler Fixture

(Concluded from Page 1, Column 2)
as ammunition boxes, bomb bay door covers, ration boxes, etc. Approximately 200 people are now employed.

Purchase of the Harder firm is the second such expansion move made by Tyler since the war began. In 1942 Tyler acquired the Kay Products Co.

The Tyler Fixture Corp. was established by Mr. Tyler in 1927 at Muskegon, Mich. The firm has grown from three employees occupying a 40 by 100 ft. plant to a total personnel of 700 operating two plants in Niles, as well as the Detroit and newly acquired Cobleskill divisions.

Wartime production of Tyler has included commercial refrigerators for Army and Navy use, and a variety of other products such as cargo trailer bodies for Army Ordnance, galley and scullery equipment for the Maritime Commission, etc.

ACRMA Outlines Broad Standards Program For Conditioners and Condensing Units

(Concluded from Page 1, Column 5)

As for standards, a large body of work was outlined, including nomenclature, minimum standards of application engineering, performance data for self-contained air conditioning units "above the room cooler range," study of comfort cooling needs for different parts of the country, motor overload studies, and refrigerant research.

State and municipal code work came in for attention, also, and everybody agreed that there was plenty of work ahead in this field if the industry is not to be handicapped in its expansion plans.

F. S. McNeal, president of Universal Cooler Corp., led the sessions of the Smaller Compressors and Condensing Unit Section. (This Section met twice.)

First meeting of this Section was devoted to discussion as to the scope of its activities and responsibilities. According to a resolution adopted by the Board of Directors on Sept. 8, this Section was to confine its work to "compressors and condensing units 5 hp. and smaller."

However, after considering all the pros and cons, and after consulting with the Larger Compressors and Condensing Unit Section, it was determined that the Smaller Compressors and Condensing Unit Section should cover the field embracing compressors and condensing units 20 hp. and smaller, excluding machines using ammonia as a refrigerant.

Committees on standards and engineering were set up. The latter committee, among other things, was asked to delve into the possibility of a test program for 1 hp. air-cooled condensing units.

C. E. Wilson of Worthington presided over the meeting of the Larger Compressors and Condensing Unit Section, which appointed standards and engineering committees, and then proceeded to consideration of possible recommendations to the multifarious government agencies involved in reconversion, disposal of government surplus property, and other national problems which will vitally affect the future of the industry and the speed with which it will get off to a good start in peacetime production.

Ross Rathbun of Westinghouse was chairman of the Central Station Air Conditioning and Refrigeration Equipment Section.

This meeting recommended that A.S.R.E. Circular No. 13 ("Standard Method of Rating and Testing Air Conditioning Equipment") and A.S.R.E. Circular No. 25 ("Tentative Standard Methods of Rating and Testing Forced-Circulation Air Coolers for Commercial and Industrial Refrigeration") be combined into a single code.

Sectional meetings have been scheduled for the first week in December, at which time the various manufacturers will have appointed representatives to serve on each Section's standards and engineering committees, which will then get busy on the various tasks delegated to them.

Among the ACRMA members who attended the Hot Springs meeting were the following:

Airtemp Division, Chrysler Corp.: D. W. Russell, President; P. B. Zimmerman, Vice President; A. B. Newton, Staff Engineer in Charge of Commercial Refrigeration; Allen P. Livar, Chief Engineer; M. T. Bard, Manager, Commercial Refrigeration Sales; R. C. Cameron, Director of Merchandising.

Carrier Corp.: W. H. Carrier, Chairman of the Board; E. T. Murphy, Vice President; Donald French, Vice President; C. R. Harris, Re-

gional Manager, International Division; Mark Mooney, Manager, Refrigeration Sales; George Long, Manager, Packaged Air Conditioning Sales.

The Creamery Package Mfg. Co.: G. E. Wallis, President and General Manager; O. P. Heller, Director of Sales Service; Leon Buehler, Jr., Chief Refrigeration Engineer.

Frick Co., Inc.: W. H. Aubrey, Vice President; F. R. Zumbro, Chief, Engineering Division, Ice and Refrigerating Machinery Department; M. B. Watt, Sales Promotion, Ice and Refrigerating Machinery Department.

General Electric Co.: G. R. Prout, Manager, Air Conditioning and Commercial Refrigeration Divisions; F. H. Faust, Commercial Engineer, Air Conditioning and Commercial Refrigeration Divisions.

Parks-Cramer Co.: P. A. McKittick, General Manager; William B. Hodge, Vice President.

Pennsylvania Engineering Co.: Lee Nusbaum, President.

Servel, Inc.: C. L. Olin, Assistant Sales Manager, Electric Refrigeration and Air Conditioning Division; J. K. Knighton, Sales Manager, Air Conditioning Division.

B. F. Sturtevant Co.: H. R. Sewell, Vice President, The Cooling and Air Conditioning Division.

Universal Cooler Corp.: F. S. McNeal, President; T. S. Pendergast, Vice President; W. W. Higham, Vice President.

The Vilter Mfg. Co.: F. T. Goetz, President; R. J. Panlener.

Henry Vogt Machine Co.: Eugene A. Edmonds; L. E. Baumgarten, Manager, Refrigeration Department.

Westinghouse Electric Elevator Co.: Ross Rathbun, Manager of Air Conditioning; E. M. Bouton, Manager of Engineering; L. Gale Huggins, Assistant Manager of Air Conditioning.

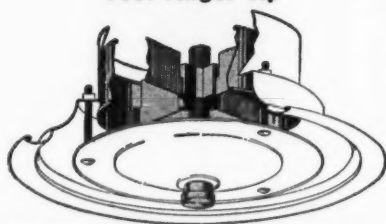
Worthington Pump & Machinery Corp.: C. E. Wilson, Vice President; C. E. Searle, Vice President; M. M. Lawler, Manager, Air Conditioning Division; W. F. Bishop, Assistant Manager, Air Conditioning and Refrigeration Division; Paul Diserens, Consulting Engineer.

York Corp.: W. S. Shipley, Chairman of the Board; S. E. Lauer, President; M. G. Munce, Assistant to the President; L. S. Morse, Executive Engineer; J. C. Tweedell, General Sales Manager; Walter Landmesser, National Supervisor, Commercial Sales; W. S. Stair, Director of New Product Development.

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Integration of major operating equipment, through the purchase of essential machinery from a single source... is one of the characteristics of the Worthington-engineered air conditioning installation illustrated and described above.

Integration results in the more reliable performance of machinery with related and interdependent functions. Worthington... making Diesel and gas engines, steam turbines, condensers, Multi-V-Drives, refrigeration valves

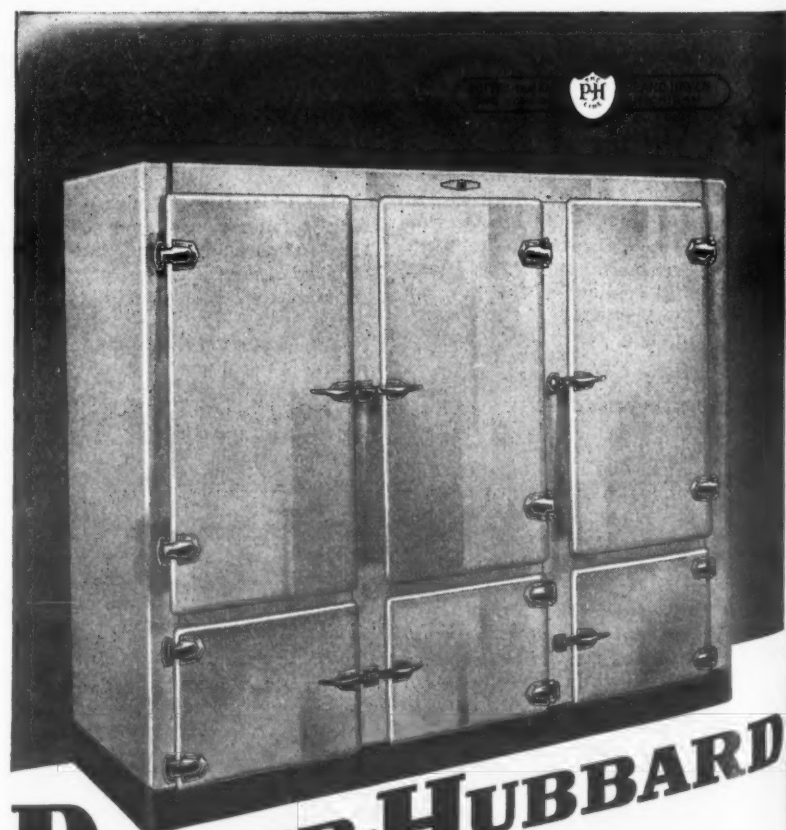
and fittings, as well as pumps and compressors for every purpose... is best able to bring this vital factor — integration — into the air conditioning systems of the future.

With regard to your present plans... Worthington engineers are ready to consult with you without cost or obligation. Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J. Specialists in air conditioning and refrigeration machinery for more than 50 years.

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*integrate, to combine parts into whole



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*The Mark of a Good Case

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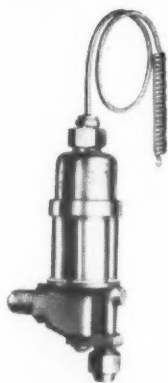


Like the Eskimos for instance. Since nature provides their refrigeration, they don't care a good dried fish about Detroit Expansion Valves. They, like millions of others, have never even heard of them. To thousands of refrigeration men, however, the name "Detroit" is nearly as familiar as their own. To these men, who do care about expansion valves, "Detroit" is synonymous with reliability and complete satisfaction. The widespread and enviable reputation of "Detroit" valves is attested by the fact that they have led the field for many years. If you, unlike our Eskimo friends, are interested in outstanding expansion valve performance, specify "Detroit".

HERE ARE A FEW MEMBERS OF THE FAMOUS DETROIT LINE



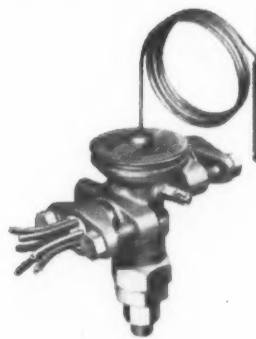
No. 897 Dura-fram Thermostatic Expansion Valve for commercial applications. Compact and easy to install.



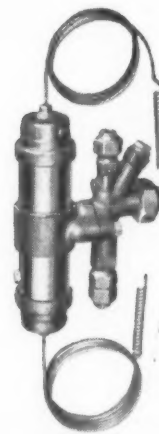
No. 673 Thermostatic Expansion Valve. For many years the standard of the refrigeration industry.



No. 899 New Dura-fram Thermostatic Expansion Valves for commercial installations. Furnished with external equalizer and forged union connection.



No. 788 Dura-fram large capacity Thermostatic Expansion Valve, with No. 790 Distributor, showing the distributor tubes and equalizer connection.



No. 793 Differential Temperature Expansion Valve specially designed for temperatures below minus 30° F.

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Inside Dope

By George F. Taubeneck

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careers as primary food producers for the nation.

So, the farm father who hopes to pass his grimly-won farm onto his treasured son has wanted to buy an automobile, a radio, a refrigerator, and other conveniences to persuade said son, or sons, that living on the farm can be fuller and better than a makeshift life in the city.

Had he been subjected more to the intense cultivation of the specialty salesmen, as have urban householders, your typical farmer might have achieved this desirable balancing of modern life more quickly and more convincingly. But in the main, because of difficulties outlined previously herein, he has had to make these appliance purchases on his own hook almost entirely and almost without encouragement.

Giant farmers can foresee the use of electrical, electronic, and mechanical aids (including many applications of refrigeration) in the profitable integration of agricultural production in the land-rich-but-high-labor-cost United States. They can foresee the time when the processing of farm produce will be done on or near the farm, instead of in far-away centers as now. They can predict with surety that this saving of transportation, this decentralization of effort, will result in higher prices for the farm producer, immense sav-

ings in distribution costs, and dramatic rescues of former crop losses.

All such advances in the American farmers' position must come through increased utilization of the mechanical devices now available. They must be put into operation, and quickly, through the urge of specialty salesmanship impinged on the farmer's usually conservative wants and needs. They call for a new type of aggressive rural dealer.

This new or regenerated rural dealer must be able to prove to the farmers in his territory that an electric water system will pay for itself in less than a year from the date of purchase. He must be able to show that milk and butterfat production can be increased up to one fourth by virtue of running-water availability. And he must be able to demonstrate without question of doubt that an electrically refrigerated milk cooler will save at least 30 cents per hundred pounds of milk (as it will) over old-fashioned cooling methods employing ice or extra-cool cellars. (A mechanically cooled milk refrigerator should pay for itself on any farm in at least six months.)

Through use of electrical appliances, poultry and egg production can be upped from 15 to 45%.

All such sales points must be demonstrated locally. The successful rural dealer must draw from a file

of adjacent and personally verified case histories. His original sales, then, probably will be of the high-pressure variety aided for awhile by the presently abnormal availability of ready cash. But once he has these case histories at hand, his consequent path to profits should continue indefinitely.

As for his market potential, all this prospective rural specialist dealer needs do is consult Department of Agriculture figures. At the end of last year, these figures showed some 2,600,000 farms supplied with electricity. Among these electrified farms are 800,000 with dairy herds, but only 100,000 with milk coolers, and less than 300,000 supplied with electrical milkers. Approximately half of these electrified farms do not have modern water-supply systems.

And as to poultry farms, the market for modern equipment is almost unsullied. Electric motors are badly needed by all farms. Electric fences are almost a new product. Other new farm items can be sold in quantity by the specialty rural dealers who either will arise of their own volition, or who must subsequently be set up and trained by manufacturers.

Emancipation of the overworked farmer's wife will furthermore provide a market for home appliances of untold potentialities. The pioneer farmer used to wear out three wives in one lifetime. Presently, at least 2,000,000 farm wives would like, but do not have, a labor-saving modern "cookstove." At least half the electrified farms have no electric refrigerators or washing machines. And more than one third aren't equipped with radios! Vacuum cleaners, toast-

ers, and other smaller appliances have surprisingly low saturation points in this market.

As for air conditioning, home freezers, dishwashers, electronic labor-saving aids and kindred pioneer appliances, the farms of this nation comprise a market so far unsaturated as to be, for all practical purposes, virginal.

The key to this ripe and rich market is demonstration of profits on the investment. During the terrible days of the depression, farmers bought more than 2,000,000 tractors—because tractor salesmen proved tractor expenditures paid for themselves. Relatively, it should be easy to convince progressive farmers now that low-temperature storage, milk cooling, water systems, farm home appliances, and labor-saving electronic devices will amortize original cost within a year's time.

It's undoubtedly true that within the next two or three years we'll be faced with agricultural surpluses. It's also true that all American farm producers have been guaranteed 90% of parity payments for two years following the official end of all wars in which the United States fights.

But these surpluses, while not to be laughed off, should be discounted, or, at the minimum, accommodated. New industrial uses for our crops, needs of devastated countries, higher per-acre crop yields, conservation payments, and utilization of farm appliances should combine to make the farmer's income stand up reasonably well against the bludgeons of national and international economic fluctuations. Certainly the well-supplied mechanized farmer is going to survive these fluctuations in far better shape than is the old-fashioned, higher-cost tiller of the soil.

Ambitious rural dealers will see to it that farm-customers' well-defined fears of new capital expenditures are quelled by the existence of an adequate service department, ready to go at a moment's notice to the rescue of a distant product failure.

They will, at the outset, revise the farm customer's ideas of adequate wiring, with full cognizance of the knowledge that most farms need from five to 10 times more outlets and kilowatt accommodations than they now have.

Expectations as to near-future rural electrification almost double

previously cited market figures. Within five years after the war, Frank E. Watts of *Farm Journal* and *Farmer's Wife* predicts, more than 2,000,000 farms will be electrified. Mr. Watts estimates further that this additional rural electrification should result in a \$4,000,000 market for electrical appliances. He considers this figure modest: it implies an expenditure of only \$1,000 per farm, spread over 10 years at \$100 a year!

Frank opines, after four years of concentrated study, that this type of dealer "does not exist today and must be developed, and this will be a tremendous job. The rewards, however, will justify all the work entailed in making the objective a reality."

Over 71% of farm families buy their equipment in country shopping centers within their own counties, and another 10% make most purchases within an adjacent trading community. These communities, then, are logical primary sites for dealer development.

The average farm family travels 10 miles to buy electrical appliances, and at least 12 miles to purchase such equipment as water systems. Always it should be kept in mind that more than 2,000 counties in the United States do not have a shopping center with more than 10,000 persons serving them.

Promotion of this peculiar market must take an unaccustomed tack. Instead of concentrating on the "average man"—approach, it should take advantage of the "successful farmer" angle.

Farmers must be shown. They must see clearly that one of their neighbors has employed this new capital expenditure for greater profits. Farmers are notoriously "beautiful-barn, shabby-home" people. Before they shell out cash, they want to be assured that the cash they put out now will roll back to them soon.

Profitable opportunities are present in the farm market. Cashing in on them will require the thoughtful combination of best specialty selling practices with keen realization of the unusual rural merchandising problems. Prescient readers of AIR CONDITIONING & REFRIGERATION NEWS will be alert and alive to the special situations involved.

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HOT NEWS

"BUILD YOUR POST-WAR SAMPLES NOW" says WPB

Deeply concerned with post-war problems of reconversion and anxious to see industry as far on the way as possible toward peacetime work just as soon as the war ends, the W.P.B. is now urging all industry to prepare post-war plans and post-war samples without delay.

Tecumseh Products Co., builders of the famous Chieftain compressors and condensing units announce that their post-war sample models are being built. Units are designed

on the same sound engineering principles that established Chieftain leadership before the war. A complete new line of commercial hermetics is presented, with greater flexibility of application and added safeguards for trouble free performance.

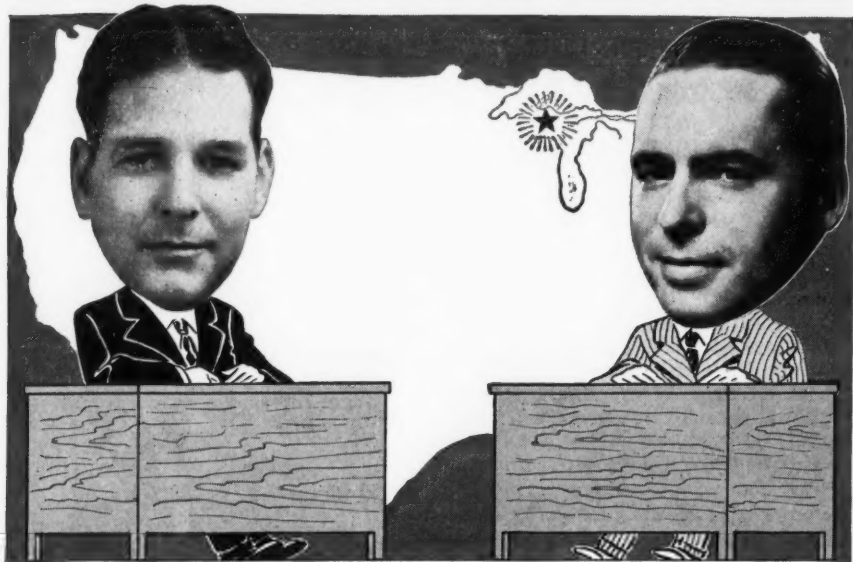
Builders of all types of commercial and domestic refrigeration equipment are urged to write or wire our sales department today for information before completing their post-war plans.



Chieftain

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PRODUCTS CO.
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ORIGINATORS OF THE PATENTED DIAPHRAGM PACKLESS VALVE



READING FROM LEFT TO RIGHT... Two Men You Ought to Know Better!

LEFT: L. C. McKesson, far-famed as a golfer, traveler, raconteur, swell guy and Sales Manager of Ansul Chemical Company.

RIGHT: George Vermilye, formerly Ansul representative with headquarters at Indianapolis, Indiana, and now Assistant Sales Manager of Ansul Chem-

ical Company. A swell guy, too!

Both Mr. McKesson and Mr. Vermilye are located at the main Ansul office, Marinette, Wisconsin. Needless to remark, they will welcome the opportunity of helping you solve special refrigeration problems, at any time. Be sure to remember this!

ANSUL
CHEMICAL COMPANY
Agents for Kinetic's "FREON-12" and "FREON-22"
MARINETTE • WISCONSIN



*REG. U.S. PAT. OFF.

TWENTY-NINE YEARS OF KNOWING HOW

Household Appliances at Top Prices Will Lead Among Farmers' Postwar Purchases

Appliance Figures Are Part of National Farm Survey Discussed at Boston Conference

By Ross Potter

BOSTON—Figures dealing with the established place of appliances and housing in the postwar plans of farmers all over the country were presented in detail at the Boston Conference on Distribution Oct. 16.

Personal interviews with 2,400 farm families in the upper-two-thirds income brackets produced the statistics charted by Donald M. Hobart, research manager of Philadelphia's Curtis Publishing Co. (The Saturday Evening Post, Country Gentleman, etc.)

How much money has been put aside toward farm building and farm purchases of appliances? Has the farmer made any concrete beginnings yet toward these stated postwar plans? How long does his program promise to run? What appliances is he most interested in, and what prices is he prepared to pay?

These points Mr. Hobart discussed in detail.

The farm survey figures, part of a broad national housing survey, were

The Postwar Farm Market According To a 2,400-Family Nationwide Farm Survey by Country Gentleman Magazine

Appliance	Wanted By	Will Pay (Av. Fig.)
Refrigerators	28.2%	\$201
Cooking stoves*	22.8%	157
Washing machines	21.3%	115
Vacuum cleaners	17.8%	69
Electric irons	15.8%	8
Radios without phonograph	15.8%	69
Food mixers	15.0%	26
Home freezers	13.4%	279
Toasters	13.4%	7
Automatic dishwashers	@	163
Radios with phonograph	@	142
Automatic ironers	@	112
One or more appliances	68.0%	\$271

drawn from interviews throughout 320 counties in 44 states, with all major farming areas of the country covered, Mr. Hobart reported.

The upper two thirds of the farm population were considered as representing that portion that could reasonably be expected to provide the principal postwar market for farm building.

Control factors in the survey were income, type of farming, size of farm, length of farm residence, age group, and geographic region. Both farm owners and farm tenants were interviewed, the latter group being important not as builders but as consumers of appliances and equipment. 77.2% of the families interviewed were farm owners, 22.8% were tenants.

Figures covering the household appliances they intend to buy showed that 68% will purchase one or more, at an estimated cost of \$271 per appliance.

Refrigerators came first on the list, with 28.2% of the 2,400 farm families indicating their intention to buy. Their statements were concrete to the point that three families out of four planned to buy the appliances indicated within two years of the market's opening.

Next among the desired appliances were cooking stoves, rating 22.8% (9.9% want electric ranges), washing machines 21.3%, vacuum cleaners 17.8%, electric irons 15.8%, radios without phonograph also 15.8%, food mixers 15%, home freezers 13.4%, and toasters also 13.4%.

Nor was cheap merchandise anticipated. Gadget features representing small convenience improvement in proportion to the extra money were given little enthusiasm, but the families contacted expected to buy top goods and to pay accordingly.

The average prices they expected to pay for the various appliances ran as follows: refrigerators \$201, cooking stoves \$157, washing machines \$115, vacuum cleaners \$69, electric irons \$8, radios without phonograph \$69, food mixers \$26, home freezers \$279, and toasters \$7.

Less than 5% of the total families polled indicated their need for the following appliances, but their intention to buy quality merchandise was consistent when they did: automatic dishwashers \$163, radios with phonograph \$142, automatic ironers \$112.

The survey figures showed that many of the families interviewed are planning for these new appliances as part of new farm homes they will build for themselves or for tenants on their land. 14.9% of them intend to build new farm houses, 6.6% to build tenant homes.

Not all of them will wait until the war is completely over. 12% specifically plan to build before the war is done, while 38.6% will go ahead as soon as it is, and 34.1% will wait only until wartime restrictions are lifted. 15.3% said they will build, all right, but had set no definite time.

In terms of estimated years, 19.2% plan to start their building operations within the year, 25.3% within 2-3 years, 23% within 3-5 years. These figures relate to farm homes. As to tenant houses planned, 56.7% intend to build within two years.

How do they intend to pay? Over and above his mortgage debt retirement, the farmer today has more than \$10 billion in cash reserves in the form of demand deposits, savings accounts, war bonds and currency, Mr. Hobart said.

According to the survey figures, 66.3% of those families planning to build farm homes and 78.9% of those planning to build tenant houses plan to pay cash. 63% have already set aside or earmarked funds for the purpose, in the form of cash, war bonds or liquid securities.

What actually has been done so far toward getting into action? 24% have selected building plans, 9.1% have also consulted with their builders, 7.2% have actually begun construction. For the tenant house builders the parallel figures run 17.3, 7.3 and 6.4%, respectively.

What about the size of the buildings? Excluding the usual factors of cost of the land, of materials obtainable from the land that can be used in building, and the use of some farm labor, 70% plan to put more than \$2,000 into the building, and 44% plan to spend more than \$3,000.

The estimated average of all figures submitted is \$3,517. This figure, without the usual urban factors stated above, represents a substantial housing investment, Mr. Hobart pointed out.

The farm market has never been as big as it is now, he said. The farmer is ready to buy.

On Us They Count Who Fly and Fight



Illustration is from Inland Poster showing an operation in the production of Inland-made Aircraft Hose

Inland's long experience in the development and efficient manufacture of a wide variety of natural and synthetic rubber parts for industry is being applied to the speedy production of similarly small but vital parts for America's fighting aircraft.

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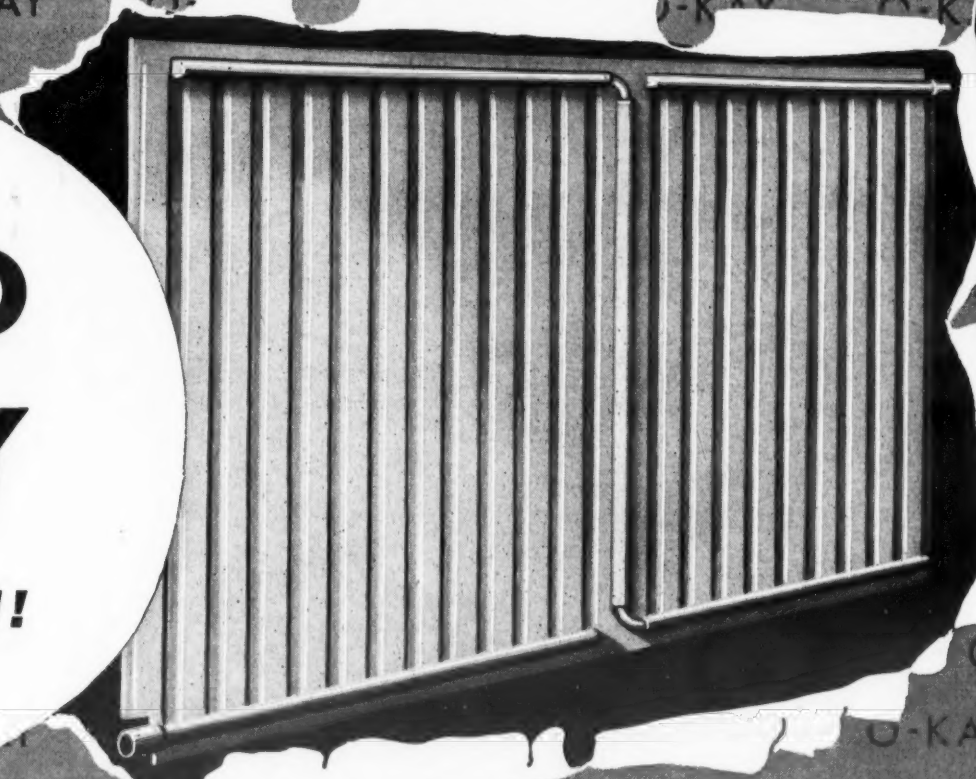


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many years in the refrigeration industry. Many new features reveal a marked advance in coil design. Investigate O-Kay Coils—the finest cooling devices available to the refrigeration industry! Send the coupon today!

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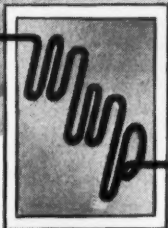
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RETIRED REFRIGERATOR SHELVES AND WELDED WIRE PRODUCTS

Vast Expansion of Refrigeration Uses Assures Fine Future for Repairmen

Krall Urges Servicemen to Start Preparing Now for Postwar Boom

By J. W. Krall, Manager,
Refrigeration Department, Detroit Lubricator Co.*

As rumors of peace become more persistent, the unselfish attitudes so prevalent during times of war because of a common objective rapidly diminish and each of us looks once more to our own welfare and well-being. If this group is like the other refrigeration service engineers I have talked with around the country, you too are concerned with the postwar period and its effects upon your future.

You are wondering if your ranks will be swelled by newcomers to the extent that the available refrigeration service engineers will exceed the demands upon your skill. You are wondering if your present income will decrease because of lower charges necessitated by competition. You are wondering if perhaps it wouldn't be best to quit now and get into another line of endeavor.

The answers are beyond your control, are already given, and clamor for an audience, understanding, and recognition.

Let's review, as briefly as possible, uses for refrigeration equipment,

*Talk given before Maple Leaf Chapter, RSES, Toronto, Canada.

some old and a great many new, that will be in operation postwar. Consider the preservation of food which all of us accept as an everyday requirement for refrigeration, yet few realize how much equipment is needed for this alone.

Dehydrated foods require forced circulation of air and the control of humidity.

The Frozen Foods industry, which has taken on a new importance since the start of the war, expects to freeze approximately 850 million pounds of foods during 1944. Frozen food cabinets will soon become just as commonplace in the home as a domestic refrigerator.

There are now 5,000 or more locker plants in operation, and many more are expected to be built as soon as materials are again available.

Farm freezers have finally some into the prominence they deserve. One company alone expects to produce 150 thousand the first year after the war.

New Applications in Meat Packing Industry

Refrigeration is, of course, essential to the meat packing industry. One of the most recent applications for air conditioning is the air conditioned smoke-house which performs the function of controlling temperature and humidity and providing air circulation.

The baking industry depends heavily on refrigeration. Cold storage for the perishable baking ingredients, refrigerated bread wrapping machines, and controlled fermentation.

Dairy products—milk, ice cream, and eggs, all require refrigeration.

Vitamins in leafy vegetables are being retained by proper control of temperatures. Fresh produce is being shipped in refrigerated cars.

Scientific temperature control is needed during the brewing process of beer and ale. Carbonated beverages depend upon refrigeration to retain their freshness, taste, and aroma.

Oranges, grapefruit, and bananas, would never reach your table without refrigeration.

One of the most perishable of products, fish, is made available when desired, by the use of refrigeration.

Eggs are conserved in cold storage rooms and shipped in refrigerated cars.

There are undoubtedly many other uses for refrigeration in connection with foods and the food industry that have not been mentioned. Altogether it is estimated that refrigeration or air conditioning, or both, are required for processing or preserving 77% (by weight) of the annual diet of the average American.

Wide Use Now Found in Industrial Processes

The preservation of food may have provided the impetus for the discovery of refrigeration, but many new applications of cooling, entirely foreign to this field have been found and are rapidly being put into practice. Industry, given the tremendous job of fabricating weapons of war on a mass scale, enlisted refrigeration and air conditioning to increase production, to store and prepare raw materials, to improve quality and assure accuracy and tolerances formerly unheard of in regular manufacture.

Automobile plants today rely on control of temperatures for their record output of guns, jeeps, tanks, trucks, and other combat equipment. Isn't it reasonable to assume they will continue to do so when peacetime manufacture is resumed.

The chemical industry has learned that distillation of many products can best be accomplished by controlled temperatures.

Pharmaceutical plants have long been users of air conditioning—now depend on it more than ever.

One of the most important contributions towards speeding up of production in manufacturing plants is the cooling of oil and other coolants. Certainly every modern plant has this use for refrigeration.

Variety of Applications

Refrigerated welding tips are becoming quite common, and will be more so as time progresses.

Refrigeration in connection with photography is becoming well known.

Refineries are using refrigeration to a large extent in producing high octane gasoline.

Air conditioning has a vital part in the production of rubber, both synthetic and crude, keeping it free of cracks and blisters.

The textile industry relies on air conditioning to keep yarn uniform and strong.

Air conditioned blast furnaces increase output.

Special test chambers with temperatures controlled by refrigeration make possible the special testing

(Concluded on Page 9, Column 1)

The PROMOTION behind
FREEZ-ALL HOME FREEZERS

★ **FREEZ-ALL LEADS THE NEW HOME FREEZER INDUSTRY**

THE market for home freezers will be tremendous. More than a million families have indicated their intention of buying one after the war. Freez-All well realizes that it is not enough to have a line of fine products and a great ready made market . . . there also must be extensive plans for reaping this market. Freez-All has already broken with a nationwide campaign that has brought thousands of inquiries. In addition there will be local newspaper advertising, dramatic point of sale material, new exciting merchandising and promotional plans, and sales literature of many kinds to assist Freez-All dealers. Complete information on Freez-All home freezers and the market for them gladly sent on request. Please write today. Dealers are now being franchised all over America.

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Portable Elevator Mfg. Co.
Dept. T3, Bloomington, Ill.

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HOME FREEZERS

Superior QUALITY FITTINGS

... designed especially for use in refrigerating systems where they must withstand wide fluctuations in temperature, plus considerable vibration. Machined from brass forgings and relief-annealed extruded brass rod to assure uniform density—maximum strength—freedom from season cracking—total absence of seepage leaks.

All threads machined to medium fit (SAE Class 3). Flare threads and faces protected by cardboard ferrules.

SUPERIOR QUALITY FITTINGS are recommended for, and used extensively by, refrigeration, machine tool, marine, retining, liquefied petroleum gas, and many other industries.

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OFFICES IN PRINCIPAL CITIES • WEST COAST STOCK LOS ANGELES (15) • JOBBERS EVERYWHERE

Number of New Repairmen Won't Exceed Prewar Total of 20,000, Krall Believes

(Concluded from Page 8, Column 5)

necessary to insure uniformity of product.

There are many other uses for refrigeration that are important that have not been mentioned because it seems that one could go on forever without reaching the end.

That service to a degree will be required on the countless mechanical refrigeration installations is a foregone conclusion. The original equipment manufacturer is in most cases too far away, therefore, the responsibility for adequate and skilled service lies upon the shoulders of the Refrigeration Service Engineer.

Number of Repairmen Cut Drastically

Prior to the war it was estimated there were nearly 20,000 refrigeration service engineers in the United States and Canada. Currently there are about 6,000 still in the business in the two countries. The other 14,000 have gone into the armed forces, war plants, and other occupations. Some authorities guess that not more than one-half will return to refrigeration service work in the days following the war.

During the war the Army and Navy will have trained approximately 2,000. However, it should be noted that these men did not choose this occupation but were forced into it, and there is small likelihood that many of them will follow in civilian life the occupation forced upon them by the armed forces.

The National Refrigeration Service Manpower Training Program will add approximately 5,000 more refrigeration service men to the ranks. Of these, it is questionable how many will follow the work after the war.

Therefore, postwar the total number of Refrigeration Service Engineers will probably not be any larger than the pre-war figure, and it might even be smaller. Roughly, 20,000 of you are expected to keep in operation the tremendous postwar production of refrigeration equipment that the best surveys have indicated will become reality. Here are some of the estimates.

Domestic Production May Increase 30%

The production of domestic refrigerators is expected to increase 30% the first full year after the war. Commercial refrigeration as we know the term is expected to be in such

demand the anticipated production increase will be from 300% to 400%. Requirements for mechanical refrigeration needed for uses newly uncovered is forecast as being double the production of commercial refrigeration prior to the war.

The astronomical figures as reported by the percentages quoted have been taken seriously by the refrigeration equipment manufacturers. Several are now making plans for the additional manpower that will be required which in some instances will almost double the present population immediately surrounding their plants.

Certainly you must recognize now that all of us associated with the mechanical refrigeration industry will have a tremendous job to do postwar. There is not room for the back-alley refrigeration service man with his "gypping" and other sharp practices.

Prosperity Is Dependent On Repairman's Reputation

You have become a vital cog in the gear of refrigeration big business—conduct yourselves accordingly. Realize that your prosperity is dependent upon your reputation—individually and collectively. Be the first to defend an honest fellow tradesman, and be just as quick to criticize a dishonest one.

The man that replaces good equipment because of additional charges involved is in business on borrowed time, for the industry, manufacturer and distributor, refrigeration service engineer, and consumer, hasn't room for him and the day of reckoning is just around the corner.

Manufacturers of refrigeration equipment spend thousands of dollars annually publishing vital information pertaining to their products, that they are pleased to send you no charge. They do not have secrets from you—they can't afford to have. Their reputation is entirely dependent on operational reports received after installation, therefore, it is essential that an understanding of the products they manufacture be readily available.

Use this published information to advantage. It is not too early to start your own reference library filled with data on completely assembled refrigeration equipment, and on refrigeration accessories. Refer to it frequently and insist that your men do likewise.

Include in this library written memos covering unusual service ex-

periences so that others can profit by them. Do not hesitate to consult with the manufacturer if you feel the problem involving his product is beyond your experience. Plan frequent meetings for informal discussions on refrigeration and service in general. The time given will be well spent and profitable.

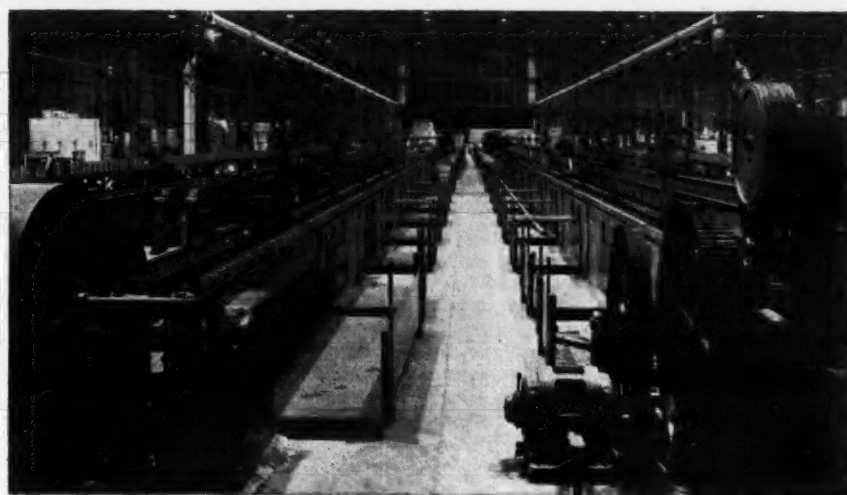
Learn to diagnose the service complaint quickly and efficiently, thereby eliminating wasteful cut and try methods. Prepare a large wall-chart showing the most common complaints, symptoms, and corrective steps necessary. This will save time, especially for the less experienced. See that your service trucks are fully equipped with spare parts, controls, valves, etc., making in-between trips to your sources of supply unnecessary.

Bonanza of Refrigeration Not Past But Ahead

The busy days that are behind us will not cease—they will be even busier when the people of the world again return to the civilian way of life. The bonanza of mechanical refrigeration is not past but is ahead. Our industry is rich in promises—and promises to be richer as new uses for controlled temperatures are uncovered.

The question you as refrigeration service engineers should ask yourselves is not, "Will I have enough to do postwar?" it should be, "Am I getting myself and my organization set up so that I can handle intelligently, expeditiously, and efficiently the service required to keep in operation the many additional refrigeration installations that are forthcoming?"

Your future is assured—be prepared to meet it.



Looking Down the Main Bay
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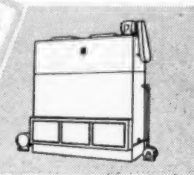
In addition, this new type of cooler eliminates warm-up effects, gives quick recovery, and actually doubles the cold water supply of ordinary coolers at peak periods.

Beautiful in appearance, economical in operation, dependable and long-lasting, only Strata-Flo offers you all of these advantages. And it is available now! Write today for complete informational catalog.

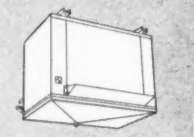
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THE FIRST AND ONLY FACTORY OF ITS KIND IN THE WEST WITH COMPLETE FACILITIES FOR ENGINEERING, DESIGNING, MANUFACTURING HEAT EXCHANGE EQUIPMENT

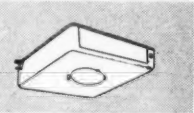
Complete Line of Heat Exchange Equipment Also Available.



Wat-R-Miser Evaporative Coolers



Flo-Cold Cooling Units



Spasaver Horizontal Coolers

What Priority Regulations Now Control Sales and Repair of Cooling Systems?

WPB Official Supplies Answers to Queries of Chicago Engineer

Last month we received the following letter from S. R. Thompson, refrigeration and air conditioning engineer, Refrigeration Service Co. of Chicago, in which he said:

"It has been noted that a great deal of disregard of existing priority laws has been prevalent lately due to the many relaxations of the original laws in force.

"We have had a general expansion in our business since 1943 and have had more priority matters to watch than normally.

"Lately, due to the relaxation of many of the priority laws, we have been less sure of what we could or could not do than at any time previously.

"We have made up a list of some of the more pertinent questions in such form that they can be easily answered."

Mr. Thompson then submitted a list of 13 questions as given here, and set up a form for supplying the answers to these questions as they applied to food store systems, water cooler equipment, air conditioning equipment, multiple systems for

(Concluded on Page 11, Column 3)

Here Are The Questions

A SERVICE CONTRACTOR MAY:

1. On existing systems, furnish repair parts.
2. Furnish "Freon" in system that can use only "Freon."
3. Replace evaporator on high sides if beyond repair.
4. Sell new low or high side equipment and copper tubing.
5. Sell used equipment with new tubing and installation material.
6. Use new copper tubing or installation material in installing used equipment.
7. Sell used units, repaired from parts obtained through P-126.
8. Sell new high or low side equipment that is in our inventory, bought under P-126—AA2.
9. Use new copper tubing and installation material in moving equipment around in store.
10. Sell and install a new control valve or thermostat that does not now exist on job, needed to give proper performance.
11. Replace defective refrigeration cabinet only.
12. Sell new refrigerator, such as reach-in, display case, or walk-in refrigerator.
13. Install relief valves, gauges, vent line on existing system, to satisfy local City Code.

And Here Are The Answers

On Apartment House Equipment (multiple system):

Question	Yes	No	Limitation	Best Priority Applicable and Reference
1.	✓			AA-2 MRO—CMP Reg. 5.
2.	✓		See M-28.	See M-28.
3.	✓		Installed 90 days or longer.	AA-2 MRO—P-126 or CMP Reg. 5.
4.	✓		Must establish essentiality.	AA-3 (Customer must obtain rating on WPB 1319.)
5.	✓		Not more than \$25 worth of controlled materials, Dir. 2, CMP 9A. Direction 2, to CMP Reg. 9A.	
6.	✓		Same as No. 5.	Same as No. 5.
7.	✓		P-126 for emergency repair and maintenance only.	
8.	✓		For repair and maintenance only of equipment installed over 90 days.	AA-2 MRO P-126.
9.	✓		Not more than \$500 of materials. Dir. 15 CMP 5.	AA-5 Dir. 15 CMP 5.
10.	✓		Minor capital addition.	CMP Reg. 5 (Customer must furnish rating.)
11.	✓		See Para. (d) Order L-38.	CMP Reg. 5 (Customer must furnish rating.)
12.	✓		Does not apply.	
13.	✓		Same as 10.	

On Water Cooler Equipment:

Question	Yes	No	Limitation	Best Priority Applicable and Reference
1.				
2.			(Answers the same as for "Equipment In Food Stores" except that	
3.			AA-1 MRO may be used by manufacturers under Schedule I of	
4.			CMP Reg. 5 or AA-2 MRO for those under Schedule II and AA-5	
5.			for all others. Delivery of new water coolers subject to provisions	
6.			of Order L-38.)	
7.				
8.				
9.				
10.				
11.				
12.			(Does not apply.)	
13.				

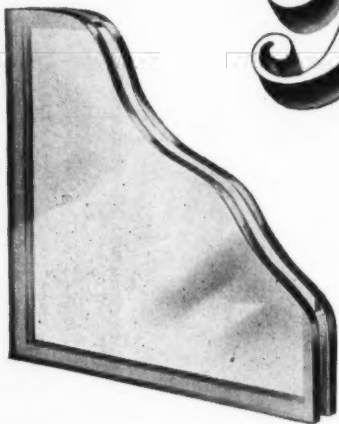
On Equipment in Liquor Stores or Taverns:

Question	Yes	No	Limitation	Best Priority Applicable and Reference
1.				
2.				
3.				
4.			(Same as: "Equipment For Food Stores," except rating for	
5.			beverage storage and dispensing equipment would be AA-5 instead	
6.			of AA-2 MRO—under P-126.)	
7.				
8.				
9.				
10.				
11.				
12.				
13.				

REDUCE HEAT LOSSES WITH

Thermopane

L-O-F Insulating Glass Unit



• THERMOPANE—new Libbey-Owens-Ford insulating glass unit for glazing windows and refrigerated cases—opens the way for a greatly expanded use of glass in postwar design and construction.

Used in windows, THERMOPANE perks up "lazy" air conditioning systems—gives improved air conditioning results because it provides a closer control of heat losses. Used to glaze display and sales cabinets for perishable goods, THERMOPANE provides both insulation and visibility, enabling the customer to select the goods he wants.

To acquaint designers and manufacturers in the Refrigeration Industry with the facts about THERMOPANE, Libbey-Owens-Ford has produced a new book—"Technical Data Sheets on Thermopane." A copy is available for those interested in incorporating this insulating glass in their product. Simply write Libbey-Owens-Ford Glass Company, 60114 Nicholas Building, Toledo 3, Ohio.

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AUTOMATIC CONTROL VALVES AND REGULATORS

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On Equipment in Food Stores (for food):

Question	Yes	No	Limitation	Best Priority Applicable and Reference
1.	✓		CMP Reg. 5, CMP Reg. 9A P-126	AA-2 MRO-P-126.
2.	✓		M-28	No priority required—See M-28.
3.	✓		Installed 90 days or longer	AA-2 MRO-P-126.
4.	✓		Must establish essentiality	AA-3 (Customer must obtain rating on WPB 1319.)
5.	✓		Not more than \$25 worth of controlled material. (Dir. 2, CMP 9A (viz. copper tubing, etc.))	Direction 2 to CMP Reg. 9A AA03 and V-3 Symbol.
6.	✓		See No. 5	See No. 5.
7.	✓		P-126 for emergency repair and service only.	
8.	✓		For repair and maintenance only of equipment installed over 90 days.	AA-3 MRO P-126.
9.	✓		Not more than \$500 of materials. Dir. 15 CMP 5.	AA-5 Dir. 15 CMP 5.
10.	✓		Minor capital addition.	CMP Reg. 5 (Customer must furnish rating of AA-5 or better.)
11.	✓		See Para.(d), Order L-38.	CMP Reg. 5 (Customer must furnish rating.)
12.	✓		Must establish essentiality.	AA-3 or 5 (Customer must obtain rating on WPB 1319.)
13.	✓		(Same as 10.)	

Questions—Answers
On Priority Rules

(Concluded from Page 10, Column 3)
apartment houses, and equipment in liquor stores or taverns.
This set of questions were then submitted to F. B. Millham, Deputy Chief, Special Equipment Branch, General Industrial Equipment Division of WPB.
However, Mr. Millham sounded this warning in giving the answers:
"We are not able to quote portions of the regulations involved for the reason that we do not know the exact circumstances surrounding each individual application. However, you will note that we have referred in many instances to the Order or Regulation applying most often to the type of installation outlined.
"The individual applying the automatic ratings under these regulations must be sufficiently informed as to the limitations of these various orders as they specifically apply to his business or organization."

On Air Conditioning Equipment:
(Not including Air Conditioning received for processing or testing, etc.)

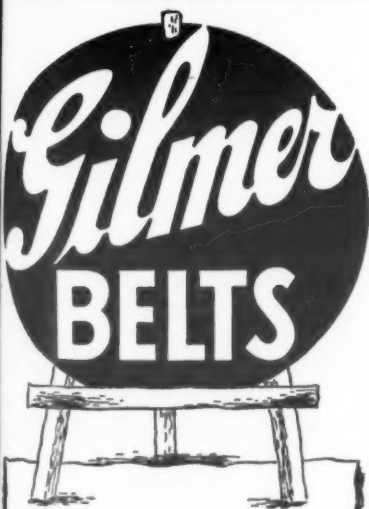
Question	Yes	No	Limitation	Best Priority Applicable and Reference
1.	✓			Ratings in accordance with CMP 5.
2.	✓		M-28.	M-28.
3.	✓		Must have been installed 90 days or more.	Ratings in accordance with CMP Reg. 5.
4.	✓		If authorization can be secured on Form WPB-1319.	AA-5 or higher L-38.
5.	✓		Not more than \$25 worth of controlled materials (viz. copper tubing). Dir. 2 CMP 9A.	Dir. 2 to CMP Reg. 9A.
6.	✓		See No. 5.	See No. 5.
7.	✓		P-126 for emergency repair and service only.	
8.	✓		P-126 excludes air conditioning.	
9.	✓		Not more than \$500 of materials Dir. 15 CMP 5.	AA-5 Dir. 15 CMP 5.
10.	✓		Minor capital addition.	CMP Reg. 5 (Customer must furnish rating.)
11.			Does not apply.	
12.			Does not apply.	
13.	✓		Same as 10.	

Bowe Resigns Carrier
Post To Join Staff
of Walter Teague

NEW YORK CITY—Walter A. Bowe, for the past eight years advertising and sales promotion manager of Carrier Corp., has joined the staff of Walter Dorwin Teague, industrial designer here, as an associate in industrial planning and consultant on clients' sales problems.
Mr. Bowe had served in various advertising executive positions with General Electric Co. before joining Carrier. He is a vice president of the National Industrial Advertisers Association, a professional member of Alpha Delta Sigma, and has been active in the Association of National Advertisers and the public relations activities of the air conditioning and refrigeration industry.

Frank Gibbons Named
Viking Sales Chief

CLEVELAND—Frank P. Gibbons, formerly purchasing agent and assistant sales manager of Viking Air Conditioning Corp., manufacturer of blowers, humidifiers, and fans, has been promoted to the position of sales manager, announced Marion I. Levy, president.
Mr. Gibbons joined Viking in 1935, after being associated with the Monmouth Products Humidifier Division here.



There's plenty of profitable business to be had in the sale of replacement belts for air conditioning and refrigeration units.

Dealers everywhere are ringing up tidy profits by supplying rugged, long-lived, efficient Gilmer Belts. Gilmers are built to give the best service to the user and are always goodwill builders for you. Order through your jobber today.

L. H. GILMER COMPANY
Tacony, Phila. 35, Pa.

MAINTENANCE TIPS
for users of "FREON-12"

No. 3

EMPTYING CYLINDERS

Today, the importance of completely emptying cylinders of "Freon-12" cannot be overemphasized. Haphazard methods may result in loss or waste of as much as 6% of the total charge as vapor in a standard 145-pound cylinder.

Close observance of the following suggestions will enable you to obtain full weight from every cylinder:



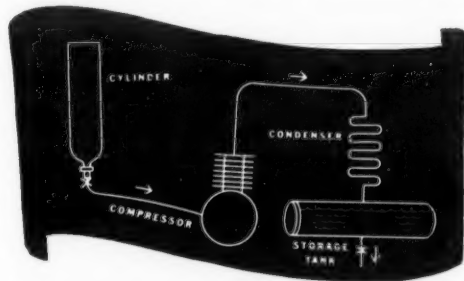
1. Place the "Freon-12" cylinder with hood on scale to obtain gross weight.

2. Remove cylinder from scale and place it in a bucket or barrel of hot water not exceeding 125° F.



3. After cylinder is thoroughly heated to increase pressure, remove from hot bath and invert cylinder. Connect line to valve, open valve and discharge all liquid "Freon-12."

CAUTION: Never subject cylinder filled with compressed gas to a temperature above 125° F. Never permit direct flame to touch the cylinder or fuse plug.



4. Connect the cylinder to the suction line of the compressor and evacuate the cylinder to 28" to 29" of mercury for a period of 20 to 30 minutes. The "Freon-12" vapor removed from the cylinder is compressed and condensed and discharged into a storage container or charging line.

5. When the cylinder is completely evacuated, close the valve tightly, replace hood and again weigh the cylinder.

6. Subtract tare weight from gross weight of cylinder. The difference represents net weight of "Freon-12" removed from the cylinder. Compare net weight with that shown in column 6 of analyses report accompanying each shipment of "Freon-12." This should be 145, 25, 10 or 4, depending upon capacity of the cylinder.

NOTE: If weights differ, evacuation of cylinder is incomplete.



7. If determination shows that evacuation is not complete, repeat operation No. 4.

You can be sure you get all the "Freon-12" you pay for by being certain that every cylinder is completely evacuated before it is returned. Reprints of these suggestions will be sent upon request. Write: Kinetic Chemicals, Inc., Tenth & Market Streets, Wilmington 98, Delaware.

Please continue to return empty cylinders promptly

BUY A WAR BOND EVERY MONTH

Air Conditioning & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office;
Established 1926 and registered as
Electric Refrigeration News

F. M. COCKRELL, Founder

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BUSINESS NEWS PUBLISHING CO.
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NOVEMBER 20, 1944

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How To Sell To Farmers

THAT lush farm market is a thing of beauty. Total farm income this year will surpass \$22 billion, greatest in history. It has been tremendous for the last four years, and it will be outside for the next three or four.

Today the average farmer has far more cash than he ever had before, or ever dreamed he'd have, and chances are that his cash reserve will grow and grow. It's entirely possible that he will outbuy, on a per capita basis, any other class of prospects for major appliances.

Of the nation's 6,000,000 farms, around 2,550,000 are connected to power lines. Between the efforts of some utilities and the Rural Electrification Administration (which has earmarked one and one-half billion dollars for the purpose!) power lines will be extended to the remaining unelectrified farms at a probable annual rate of 300,000.

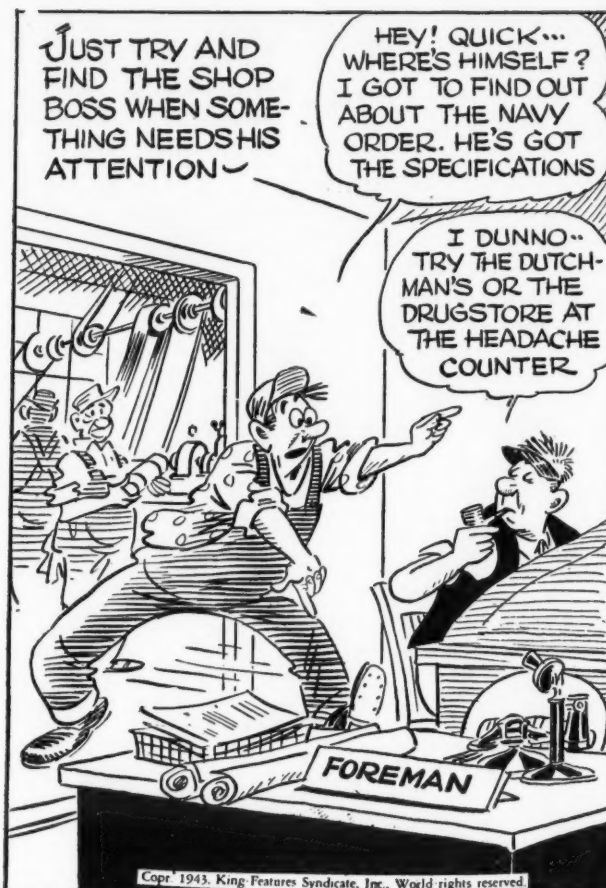
Saturation figures on this farm market are most encouraging. Nearly six farms out of every 10 have no electrical appliances, because they have no electrical power. When they get it, they'll constitute a 100% market. Of those now electrified, some 80% have radios, 78% electric irons, 55% have washing machines, 40% have refrigerators, and 15% have ranges.

To this market you can also sell air conditioning, milk coolers, farm freezers, dishwashers, ironers, brooders, water pumps, cream separators, pig brooders, milkers, food grinders, fans, stokers, roasters, poultry lighting, and arc welders.

In addition, there are electrified fences, television, and the table appliances. What a market!

Nor must the dealer wait for all the farms to be electrified before he can realize the total opportunity, at least

They'll Do It Every Time By Jimmy Hatlo



for milk coolers and farm freezers. He can sell gasoline-powered units.

An especial opportunity may arise in farm freezers in the disposal of government-surplus portable units built for the armed forces. This unit, now being built in large quantities by several manufacturers, consists of a 12 by 9-ft. box with a capacity of 675 cu. ft. The storage cabinet is constructed of interchangeable parts, permitting increases in size and making for easy repairs.

In addition to the basic single unit there are three other standard sizes, all achieved by adding panels and condensing units. The second size is twice as large as the basic unit, the third is three times as large, and the fourth is a 93-foot-long job, six times as large as the basic unit, and powered by six self-contained cooling units.

If, as, and when these jobs appear on the government surplus property list, the dealer who has access to farm prospects may find himself in the way of a very good thing, indeed.

War has given great impetus to the freezing of foods on farms. Scarcity of tin and glass containers and pressure cookers, and almost sudden availability of locker storage, have impressed farmers and farm wives with the new field of freezing.

Now that they have had experience with freezing, it's being freely predicted that many farm wives will never return to canning. Freezing will preserve many food items canning can't begin to accommodate: brussels sprouts, cauliflower, broccoli, along with eggs, cream, butter, cheese, pies, cakes, and all cooked foods.

Freezing and storage on farms of meat, poultry, fruits, and vegetables has gotten off to a fast start, but they're still in the early stages. A revolution in farm living standards is in prospect when farm freezers come into widespread use.

For the farm, freezing and storage units must be of adequate size. Anything smaller than 20 cu. ft. will be considered too small by most farmers, it is believed. Units of 40 cu. ft. to 100 cu. ft. are considered to be the ultimate development.

It is true that installations this size may be quite expensive. It is also true that progressive farms will have an exceptionally fine comparative cash position. Some of the farm equipment

people, who are considering the invasion of the refrigeration field, for the accommodation of their customers, are not frightened by the prospective costs of big farm freezers. Many case histories can be cited to show that big farm freezers pay their way.

It should be noted that the farm freezer is but one dramatic instance of the opportunities awaiting the dealer who is willing to study this field and design a selling organization especially for it.

Just as manufacturers will probably have to set up a special "farm market" operation to design products, find distributors, and train dealers, so will dealers have to set up a special operation to select and train salesmen and service men, and promote the business.

To get the farmer's business, the rural appliance dealer may have to locate franchises for such unheard-of lines as soil-heating cables and dairy utensil sterilizers. He may have to learn something about chick and pig breeding, and he certainly will have to learn to talk the language of wind, water, and soil.

The dealer who is best equipped to exploit this market will be part of his community—well known and respected, rooted to the soil. He will know farmers, and they will know and like him. He will know something about farming, and he will possibly even be a farmer himself. Most likely he will be a church worker, a Boy Scout leader, or interested in politics.

He will probably have a small-town location (perhaps several), where parking facilities are unlimited, and other shopping opportunities are adjacent. He will have a big, but not pretentious showroom, featuring all the equipment he has to sell, including demonstration units—such as home flour mills, hay hoists, brooders, hay driers, and even barn ventilation systems.

The man who is really interested in his work will have a lunch counter, a comfortable assembly room, and a continuing series of cooking schools, farm club meetings, movies, equipment demonstrations, and lectures. Atmosphere will be definitely democratic, and small town. If he goes for that sort of thing, the farm equipment dealer will be a leader of the community, and have the time of his life.

A service shop for the repair and

maintenance of all the equipment he sells will be a must for the farm equipment dealer. Service is, at best, difficult for the farm customer because of the distances involved. He has suffered burns in the past; and he will insist on adequate service guarantees and facilities in the future.

Type of salesmanship required will be leisurely, friendly, and patient. Quota pressures will backfire in this market. The money will be there, and the desire, but the farmer must be allowed to buy, rather than be sold. It's all a matter of suggestion, of atmosphere, and of trust.

Successful dealers will cooperate with all cooperative movements, including the Cooperatives themselves who may be quite a factor in the merchandising picture. They will hitch their bandwagons to the 4-H clubs, to the state extension agriculture men, the county agents, the state university representatives, and the vocational agriculture teachers.

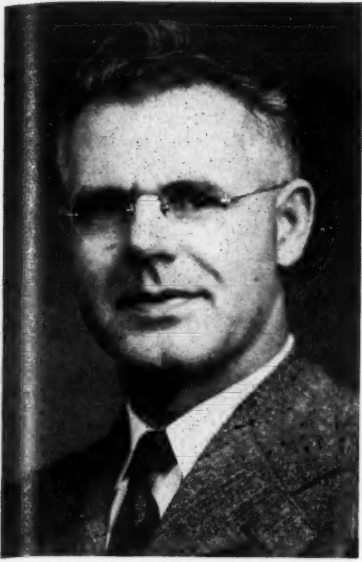
All such leaders are evangelizing better farming, and they can be most useful unpaid helpers, if they are brought into the fold. Utilities serving the area can also be most useful, because they realize better than anybody else how much room there is for expansion in the farm field, and how many times kilowatt-hour consumption can be increased in rural areas.

Some utilities are planning dealer training programs, as are some of the larger manufacturers. But smaller manufacturers and more specialized wholesalers should not overlook the inviting opportunity presented by the glittering farm market.

Just take the specialized equipment possibilities alone. In addition to products mentioned previously, there are these: water warmers for livestock and poultry, storage batteries, hotbed thermostats, grain elevators and blowers, corn shellers, feed mixers, electric wood saws, electric honey uncapping knives, electric insect exterminators, plumbing fixtures, copper tubing and fittings, hydrants, poultry and livestock waterers, plus germicidal, fluorescent and ultra-violet lamps.

It's a business that will require specialization and specialists. It can not be invaded or skimmed with "lick and a promise." It must be infiltrated. But the rewards will be more than commensurate with the effort involved.

Appointments



D. G. CAMERON

Cameron Head Engineer At Penn Electric Switch

GOSHEN, Ind.—Donald G. Cameron, has been appointed recently to head the engineering department of Penn Electric Switch Co., Goshen.

Mr. Cameron, a graduate electrical engineer, formerly was associated for 15 years with General Electric Co. and in recent years was superintendent of that company's Aircraft Instrument Division at West Lynn, Mass.

Westinghouse Ups Lohr In Market Development

EAST PITTSBURGH, Pa.—A. W. Lohr has been named acting manager of Westinghouse Electric & Mfg. Co.'s market development department during the absence of Donald C. Hooper, now serving in the U. S. Navy, announces J. H. Jewell, manager of the industry departments.

Mr. Lohr has been with Westinghouse Electric since 1930, working in commercial research, new products, and market development. Following his graduation from the University of Michigan in 1922, he was associated with the Westinghouse Airbrake Co. until 1930.

Whiteacre Given New England Stores Post

BOSTON—Appointment of Charles H. Whiteacre stores manager for the New England district, with offices in Boston, has been announced by E. V. Wetmore, New England district manager of the Westinghouse Electric Supply Co.

Born in Wollaston, Mass., and educated in Dorchester and Boston, Mr. Whiteacre joined the Wetmore-Savage Co. in 1909. In 1925 he became affiliated with Westinghouse. He has had experience in the stock, order, receiving, shipping and sales departments.

Paul Lutz Appointed To Maxon, Inc., Staff

NEW YORK CITY—Paul V. Lutz, formerly in charge of engineering products advertising for Radio Corp. of America, has joined Maxon, Inc., advertising agency here as accounts manager for General Electric Co.'s specialty products division.

FOOD MUST BE CONSERVED

Refrigeration today is performing a vital service by guarding and preserving for future use, priceless food which might otherwise be wasted. Write for literature.

GENERAL REFRIGERATION DIVISION



Northern New Jersey A.S.R.E. Chapter In

NEWARK, N. J.—The newly organized Northern New Jersey Section of the American Society of Refrigerating Engineers received its charter at the October meeting from John F. Stone, national vice president of the society.

Arnold M. Hess, deputy mayor of Newark, welcomed the organization to the city. Principal talk at the meeting was an illustrated lecture on electronics in the control industry, presented by Robert W. Forster.

Other speakers at the induction ceremonies included Charles R. Logan, past president of the A.S.R.E.; Helen H. Peffer, editor of *Refrigerating Engineering*; and Anthony

Dietl, vice chairman of the new section. The charter was accepted by Herbert J. Levins, chairman of the section.

List of officers of this section also includes Roland G. Ewer, vice chairman; Walter F. R. Karsten, secretary; and William Knowles, treasurer.

Par Names D. E. Stenson To Eastern Sales Post

BOSTON—D. E. Stenson has been appointed eastern district sales manager, with headquarters here, for the Par Division, Lynch Mfg. Co. of Defiance, Ohio, announces R. L. Sears, sales manager. Mr. Stenson has had many years experience in the jobbing field in New York City, Chicago, and Boston, said Mr. Sears.

Greenhill Elected Head Of Acklin Stamping Co.

TOLEDO—F. Cyril Greenhill was elected president and assistant treasurer of the Acklin Stamping Co., Toledo, at the regular meeting of the stockholders and board of directors Oct. 28. Mr. Greenhill succeeds Frank E. Graper, former president who died following a brief illness in July.

Other officers elected include Alvin E. Seeman, executive vice president and treasurer; Harry F. Smith, vice president in charge of manufacturing; George J. Bleim, vice president in charge of purchasing; George F. Medill, secretary; DeWitt L. Mielke, assistant secretary and assistant treasurer.

The new board of directors includes Mr. Greenhill, Mr. Seeman, Mr. Medill and Roy W. Craft.

The company produces stampings and stamping assemblies for a wide range of industrial requirements.

Bostwick Appointed To Manage Westinghouse's Southeastern Stores

DALLAS — Appointment of J. R. Bostwick to the position of manager of the Southwestern district stores, with headquarters in Dallas, has been announced by C. H. Mackey, Southwestern district manager of Westinghouse Electric Supply Co. He was formerly operating manager for the company in San Antonio.



Dependability doesn't happen...

IT'S **BUILT INTO EVERY**  **VALVE**



MODEL 215

THERMOSTATIC EXPANSION VALVE



Designed for large commercial refrigeration and air conditioning applications, Model 215 has a capacity range of 3 to 6 tons Freon, and 6 to 12 tons Methyl or Sulphur. Available with or without equalizer, it is ruggedly built, super-sensitive with its extra large area diaphragm and can be installed in any position. Easy installation, adjustable superheat, simplicity of inspection



and adjustment are other features that add to its popularity among refrigeration engineers. Write for complete bulletin No. 408.

AUTOMATIC PRODUCTS COMPANY

2450 North Thirty-Second Street Milwaukee 10, Wisconsin
Export Department — 13 E. 40th St., New York 16, N. Y.

DEPENDABLE REFRIGERANT VALVES

STOCKED AND SOLD BY PROGRESSIVE REFRIGERATION JOBBERS EVERYWHERE —
RECOMMENDED AND INSTALLED BY LEADING REFRIGERATION SERVICE ENGINEERS

Off the Chest

BOOK ON WORLD TOUR ENJOYED VERY MUCH

The Crosley Corp.
Cincinnati, Ohio

Editor:

I have read your book, "Their Heads Shall Rise Again," and enjoyed it very, very much. It sure brings you close to the far-away places. You are probably the last one to do this sort of book before the global hell broke loose and wrecked everything but the Western Hemisphere.

If you look at a globe and read your book, you will be surprised at what a large part of the world is going to be a complete wreck when this war is over. It will take a lot of work to put it back together and a lot of refrigerators to keep the food that our Army has taught foreign peoples to eat.

It makes you dizzy to think about the amount of work the United States is going to have to do to build it all up and bring up the young generation to have some sense. It is so colossal that it reminds me of the following story of how long it is going to take:

"Once, away up in Lapland, there was a big rocky mountain, four miles high, made out of limestone and niggerhead rocks. One day a little bird lit on top of this mountain and whetted his bill and flew away. In 100 years he came and whetted his bill again and flew away. He kept this up, stopping once every 100 years until he wore that mountain out!" That is how long it is going to take to rebuild the world.

I am very glad I have your book.
R. H. MONEY, Chief Engineer,
Electro Mechanical Devices

EDITOR'S BOOK WINS PRAISE IN CUBA

Servicio General De Refrigeracion
Habana, Cuba

Editor:

The book entitled "Their Heads Shall Rise Again," written by yourself, was received in due course.

The writer is now enjoying the reading of this interesting and attractive publication and same will be passed along to other members of our organization who can read and understand English.

We wish to commend you on this good work, and the excellent narration of the social and economic conditions of the countries you have visited, also the descriptive charac-

teristics of their people, etc., all of which enriches our knowledge—with the double advantage of a real pleasure derived from something that appeals to us a great deal.

A. ALVAREZ, Manager

WHY TELEVISION SETS WILL VARY IN PRICE

Farnsworth Television & Radio Corp.
Ft. Wayne, Ind.

Editor:

You might want to point out that, in relation to discussions on television, the various estimations as to cost which now seem to level off at a range of \$150 to \$750 do not too closely indicate what will be available. First, they should be broken down into three categories:

(1) There will be straight television receivers that do not embody

the other broadcasting services. In other words, they are just television receiving sets.

(2) There will be television receivers that will combine FM and AM radio reception.

(3) Both types of receivers will be designed as direct viewing tube sets and as projection sets, projecting a picture on the wall approximately 18" x 24", whereas the direct viewing sets will have a 9 inch or 12 inch picture.

(4) There will eventually (don't hazard a guess as to when) be sets that will combine all the services of television, FM, and standard broadcasting as well as phonograph reproduction.

Now when you start to break down these points, you can see the reason for a wide variation in cost and, consequently, in selling price, for when you say they will range in price from \$150 to \$750 it covers a multitude of questions that are left unanswered.

Another point: In reference to the relay system, the most important element of this is that each relay system could present the opportunity

for the relay also being a local broadcasting station, which would bring the service to many more remote areas and really open television and make it available on a nation wide basis.

JOHN S. GARCEAU

'BULLETIN DEFINITELY HITS NAIL ON HEAD'

Alexandria, Va.

Editor:

I have just finished reading with considerable interest your Oct. 2 AIR CONDITIONING & REFRIGERATION NEWS BULLETIN. I liked it very much and feel you have definitely hit the nail on the head.

Believing you might be a little interested in my plans, I take this opportunity of telling you that I am accepting a position with the Hamilton Radio Corp. of New York. As you know, Jack Crossin, formerly of Crosley, has recently become Director of National Sales and I am to be assistant to him.

GEORGE BOISE

20-HOUR WORKDAY MAKES HIM LOOK LIKE . . .

Refrigeration Service
Sikeston, Mo.

Editor:

Here is what happens to a refrigeration repair man after working about 20 hours a day for several months. He looks so much like a hold-up man they call the police even before he does the work and presents the bill.

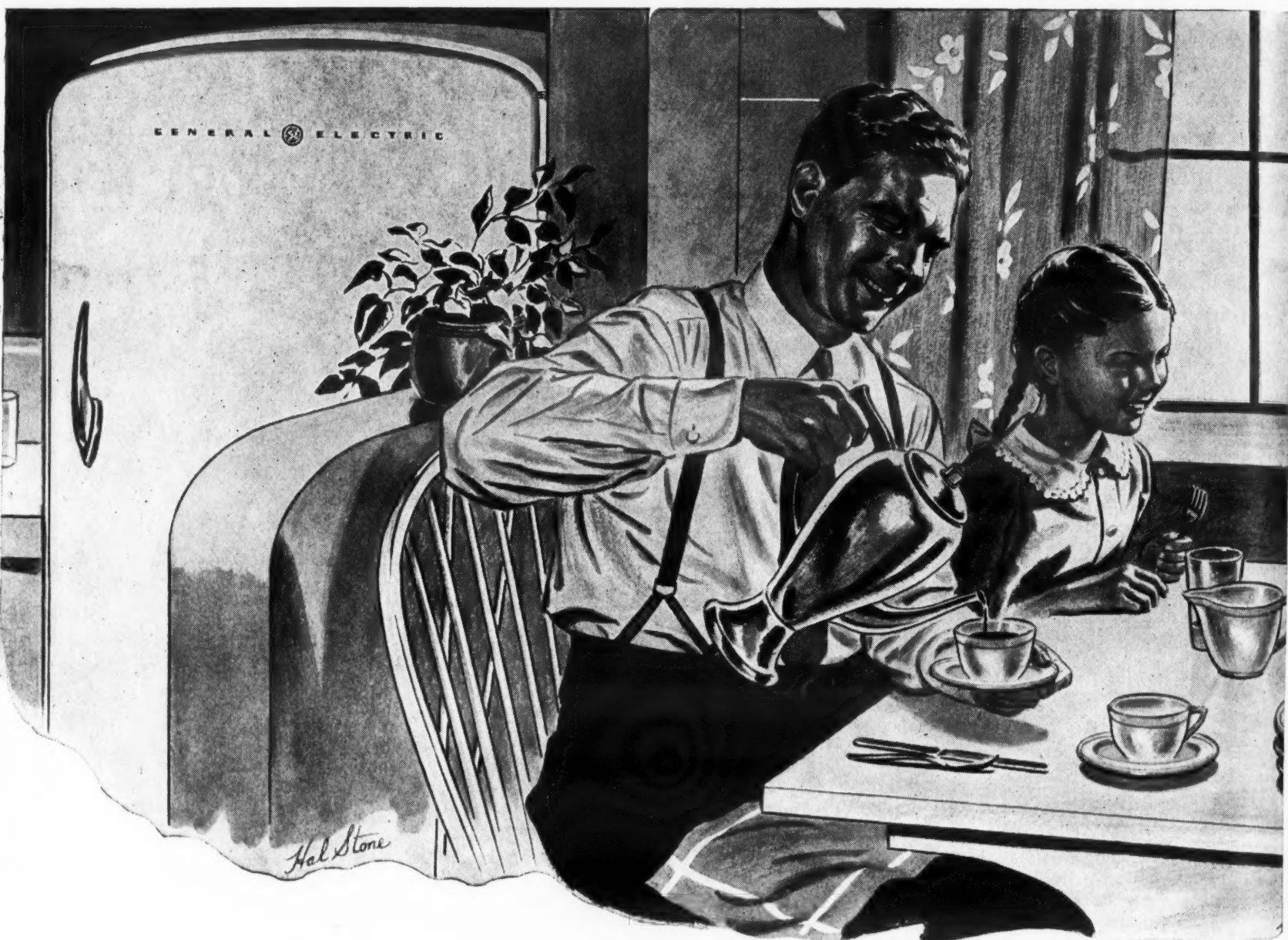
The following tells what happened to me.

W. T. BOYD

Sikeston Man Makes Fellow's Ears Burn

The following is an account from the *Charleston Enterprise Courier* showing what happens to a Sikeston man when he gets too far from home. Suspected of being a prowler, no less: Jesse Stone's ears are still a rosy red from an incident Tuesday night—and here's why:

"Jesse is manager of Ward's Store. Tuesday night he was working alone (Concluded on Page 15, Column 1)



Everyone is doing a lot of planning these days . . . and the folks who own General Electric appliances are no exception.

These General Electric appliances have stood up sturdily throughout the war years. They've given the kind of top-notch service General Electric is famous for—smooth, trouble-free performance, long-lasting efficiency.

That's why G-E appliance owners are planning to buy more General Electric products when the war is over.

That's why their plans will be so important to the dealer with the familiar G-E sign in his window.

Prospects a-plenty

But the folks who own General Electric appliances now aren't the only ones making plans.

The General Electric reputation for excellence is reaching new thousands every week . . . through praise from satisfied users . . . through continuous General Electric advertising.

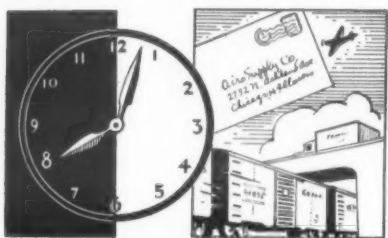
Surveys have showed us . . . and hundreds of unsolicited letters have proved . . . how pleased appliance

In the West it's
REFRIGERATION SERVICE INC.
Pacific Coast Supply Jobber
since 1928

Your letterhead will bring our latest
catalog—also our House Organ,
"The Liquid Line"



3109 Beverly Blvd.
LOS ANGELES 4, CALIF.



AROUND THE CLOCK SERVICE While you sleep—while you are out on profitable service calls—while you take care of other important business matters—tools, equipment, and parts ordered from AIRO speed on their way to you. No valuable time wasted waiting for counter service when you buy by mail from AIRO, the middle west jobber geared up to give nationwide service "around the clock."

AIRO SUPPLY CO. (NOT INC.)
Dept. B WHOLESALE ONLY
2732 N. Ashland Avenue
Chicago 14, Illinois

They're planning YOUR future

Off the Chest

(Concluded from Page 14, Column 5)

at the store when he heard a knock at the front door. He walked to the door and noticed a man wielding a flashlight and saying something. Unable to hear what the man was trying to tell him, Jesse politely shook his head to let the stranger know he couldn't come in. But the persistent stranger remained.

Closer observation of the outsider revealed something in his hip pocket which to Jesse's imagination spelled maybe a holdup.

"Quickly Jesse hurried to the phone and called night officer Ben Brady.

"When the officer arrived, he and the stranger were admitted.

"An explanation from the no less annoyed stranger proved that he was a refrigerator service man from Sikeston who had come to fix one of the store's meat cases. Yes, Jesse apologized, and his face is still red."

HAWAII DISTRIBUTOR PREPARES FOR PEACE

Service Motor Co., Ltd.
Wahiawa, Oahu, T.H.

Sirs:

First let us introduce ourselves briefly.

We are a long established dealer in motor vehicles and electrical appliances in the Territory of Hawaii. Successfully operating as the distributors of Chevrolet cars and trucks, Easy washers and ironers, and Norge refrigerators and ranges for many years.

Now, looking forward to a promising future, we are very much interested in becoming distributors in small electrical appliances such as hand irons, percolators, toasters, and other small household appliances. We hope to look to you for your assistance

to have us introduced to interested manufacturers of such appliances mentioned for Territorial distributorship.

P. H. FUKUNAGA

SERGEANT ASKS: WHAT IS THERE FOR ME?

W. A. A. F.
Victoria, Kan.

Editor:

I've seen several articles regarding assistance being available for the returning servicemen.

Men with employment prior to the war, if qualified, will reclaim their old jobs.

I would appreciate a little information from the readers or the men "in the know" on my case.

I closed up a good refrigeration and electrical jobbing business, upon being called into the army.

Presently established jobbers will get very well set up in business with the leading available lines long before I get home.

What is there for me? I have no job to come back to. Shall I plan

locating on a busy corner with pencils or what?

SGT. D. W. JACKSON,
882 Bomb Sqd. (VH)

HOW PUBLIC REACTS TO 'KITCHEN OF TOMORROW'

Libbey-Owens-Ford Glass Co.
Toledo, Ohio

Editor:

Your Oct. 9 issue containing H. D. Conklin's opinions (page 6) regarding our "Kitchen of Tomorrow" and other postwar kitchen planning aroused our interest and prompted the writing of this letter.

Inasmuch as you have presented opinions based on the results of consumer surveys made by Mr. Conklin's company, you may be interested, we believe, in results of the nationwide poll which our company is conducting in conjunction with its "Kitchen of Tomorrow" exhibits in department stores.

To date, more than 1,200,000 persons have visited the "Kitchen of Tomorrow" exhibits in 31 cities. As one feature of the exhibits, visitors

are asked to mail ballots to Libbey-Owens-Ford expressing approval or disapproval of the various revolutionary design ideas, which Mr. Conklin referred to as "fancy," according to the caption on page 6 of your publication.

A partial tabulation of ballots (including those received from kitchen voters in 11 cities) indicates that a majority of voters are favorably impressed with our "Kitchen of Tomorrow." In addition to the ballots, more than 1,000 letters have been received from Kitchen visitors, to date. A majority of these letters likewise have expressed the writers' approval of the Kitchen designs and have not questioned them as being too far advanced for the postwar home.

The ideas presented in our "Kitchen of Tomorrow" are merely design suggestions, and we never intended that they would be reproduced in their entirety in actual production lines. It seems reasonable, however, to assume that in view of the very favorable reactions to these ideas, they may play an important part in influencing design trends.

Since your publication has presented our "Kitchen of Tomorrow" in a manner which would cause readers to question its merits, may we suggest that you consider presenting the other side of the story, as shown in the enclosed tabulation of balloting results.

RALPH WINSLOW,
Director of Advertising
and Public Relations

EDITOR'S NOTE: The NEWS is glad to present the following tabulation which shows how those who viewed the various features in the "Kitchen of Tomorrow" voted their approval or disapproval of them.

Composite Tabulation of Consumer Ballots Resulting From Exhibition of Libbey-Owens-Ford "Kitchen of Tomorrow"

At
Macy's, Bamberger's, White's, Taylor's, Marshall Field's, Hudson's, Gimbel's, Stix, Baer & Fuller's, Hecht's, Kaufmann's, LaSalle & Koch's

	"Yes" (%)	"No" (%)	Total Votes
Vitrolite Glass			
Walls	93.6	6.4	17,882
Glass Doors in			
China Cabinet	91.1	8.9	17,857
Glass Doors in			
Refrigerator	56.7	43.3	17,796
Sink That Folds Up	84.4	15.6	17,795
Large Picture			
Window	95.5	4.5	18,123
Glass Doors in			
Storage Cabinet ..	64.7	35.3	17,903
Glass Hood in Oven	92.9	7.1	18,119
Serving Wagon	88.6	11.4	17,620
Glass-Topped			
Dinette Table	86.7	13.3	17,964
Food Packed in			
Glass Containers	93.3	6.7	18,009
Mirror in Kitchen	95.5	4.5	2,388*
Total ballots received—19,522			
(*Mirror question not included on all ballots)			



owners are with the efficient, obliging, and reasonably priced repair work done during the war years. You and your servicemen have done a fine job in maintaining satisfaction among your customers.

No wonder more and more people are planning to buy General Electric appliances. In a recent independent survey on brand preferences for postwar purchases, *General Electric was first choice for six out of eight appliances covered!*

We're making plans, too

You can get set for more and even finer G-E appliances to meet this demand when production bars are down.

We're planning now to turn out new G-E Washers, G-E Home Freezers, smart, serviceable G-E Kitchen Cabinets, G-E Garbage Disposals...in addition to the G-E Refrigerator, Range, and all those other General Electric appliances your customers know and need.

We suggest you plan to link your name with General Electric after the war. You'll find that combination builds business, promotes sales, and produces satisfied customers who will come back again and again.

General Electric Co., Appliance and Merchandise Department, Bridgeport, Conn.

FOR VICTORY

General Electric is working night and day to speed the attack.

You can help, too, by buying and holding more War Bonds than before.

TUNE IN: "The G-E All-Girl Orchestra," Sunday 10 p.m., E.W.T., NBC.
"The World Today" news, every weekday, 6:45 p.m., E.W.T., CBS.



"Everything Electrical for After-Victory Homes"

GENERAL ELECTRIC

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DRINKING WATER
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Jobber Inquiries Invited

A complete line backed
by nearly a quarter century
of user confidence.
Write for prices.



MAYFLOWER PRODUCTS, INC.
13 S. 5th St., Richmond, Ind.

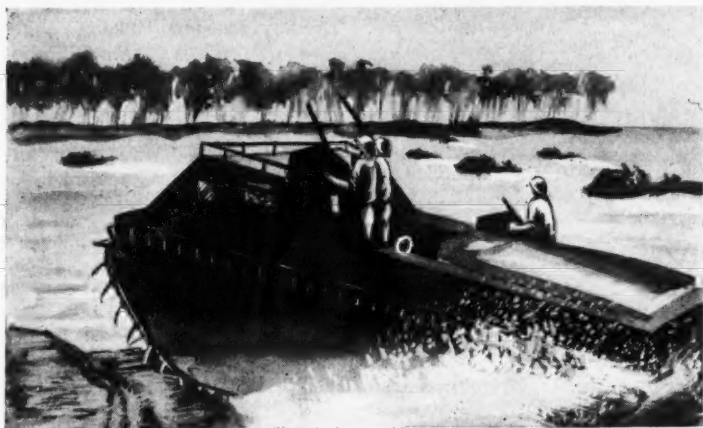
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YODER
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Every square inch of surface is
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For Frozen Food Lockers, Deep Freeze Cabinets,
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LVT AND TZ

The LVT . . . called the "alligator" . . . doesn't care whether it's on dry land or in water. This rough, tough, go-gettin' little amphibious tank climbs ashore over coral reefs or through shifting sand or mud, with guns blazing. It's unstoppable and delivers the goods.

TZ . . . short for Thawzone . . . whether on protective patrol in a dry refrigeration unit or aggressively attacking in a wet system, is a live, active liquid dehydrant that hates moisture and acidity and destroys them chemically. It's irresistible and does a job. Ask your refrigeration jobber for TZ.

"The Moving Dehydrant"

THAWZONE

Fully Protected by U. S. Patent
The PIONEER FLUID DEHYDRANT

**HIGH SIDE
CHEMICALS CO.**

195 Verona Ave.
NEWARK 4, N. J.

Specific Shading of Housewives' Appliance-Buying Intentions Analyzed In Postwar Kitchen Survey

(Continued from Page 1, Column 4)

5. Electric refrigeration, as you would expect, dominated both present ownership and postwar buying plans. Only 7% of the families answering had no refrigerators at all. Less than 5% thought electric refrigeration undesirable, and in spite of the strong coverage of prewar selling, healthy markets are ready for postwar production.

Contest returns were representative of all parts of the United States and Canada, and are significant because of their number (there were 11,887 entries) and because the biggest response came from within the age group representing the most active household buying: those between 26 and 45 years.

In attempting to determine the buying intentions of women as accurately as possible with respect to these major kitchen items, a choice of merely two alternatives was felt to be only partially useful. To say "I intend to buy" or "I won't buy" leaves too much unsaid, it seemed to the contest director, *McCall's* interior decorating editor, Mary Davis Gillies.

Thus the opinions and intentions asked for were expressed in these alternatives: 1. I must have one and will buy as soon as possible. 2. I like it and may get one, but I'm not sure. 3. I have one now, don't need another. 4. I don't like it, not interested.

The contest was announced with a two-page color spread in *McCall's*

issue of November, 1943, showing two up-to-date kitchens, one of familiar established design, the other employing unusual and experimental features.

The conventional prewar white kitchen used the compact U plan, with metal storage cabinets, recent models in major appliances, a casement window over the sink, light yellow walls, blue linoleum counter and floor.

The kitchen of the future, as designed by H. Creston Doner of Libby-Owens-Ford of Toledo, used a counter and sliding walls as the only partitions between the kitchen and living-dining room areas. Wooden dummies served for the post-modern range, sink, and refrigerator. The walls were rippled sheet glass and tile, with blond molded plywood for the counters, and sliding glass doors on the storage units.

With these designs given in full color pictures and also in blueprint layout, contestants were given check lists of future appliance requirements (as outlined above), and a poll of opinion on kitchen layout, designs of major and minor appliances, placing the laundry, construction, and materials for storage units, and lighting and color preferences.

Also included in the requirements were the filling out of a questionnaire on personal data and a 200-word letter indicating preference, and reasons why, for one of the two kitchens suggested. Choice was not absolute; features might be borrowed from either one toward a kitchen of the contestant's own choosing.

least for the time being: 5,823 out of 9,912 (58.8%). Those finding the present size too small: 3,899 (39.3%). Too large: 190 (1.9%).

At the moment, the 6-cu. ft. box leads among the electric refrigerators owned by the contestants who remembered or were able to estimate their sizes. The number of 6-cu. ft. models: 3,233 out of 8,261 (39.1%). Seven cubic feet: 1,217 (14.7%). Ten cubic feet: 1,117 (13.5%). Five cubic feet: 743 (9%). Eight cubic feet: 716 (8.7%).

FROZEN FOODS

Frozen foods may have been given a boost by the wartime rationing of canned equivalents, but the contest returns showed desire for more postwar of them and for refrigerator space to hold them.

Approximately three women out of five favored separate cabinets. These were strongest among people living in small towns and in rural areas close to fresh food supplies. As to cabinet location, most women wanted their frozen foods close at hand, bearing again toward a unit contained in the refrigerator.

The number of those using frozen foods: 9,341 out of 11,218 (83.3%). Those not using them: 1,887 (16.7%). Those who indicated a wish for more room in their refrigerators for frozen food storage: 7,844 out of 10,719 (73.2%). Those satisfied as is: 2,875 (26.8%).

The number of those that would prefer a separate cabinet for storing frozen foods: 6,515 out of 10,918 (59.7%). Opposed: 4,403 (40.3%). Asked where they would install such a cabinet, 5,315 out of 9,484 named the kitchen (56%), 3,003 picked the basement (31.7%), 1,116 were resigned to the back hall (12.3%).

The number of women who wanted exactly four ice cube trays was twice that in any other group: 4,326 out of 10,987 (39.4%). Three ice trays: 2,084 (19%). Six ice trays: 1,587 (14.4%). Two ice trays: 1,448 (13.2%). And for the heavy drinkers, 10 ice trays: 647 (5.9%). Other percentages were negligible.

The number of women who present refrigerators satisfactory at

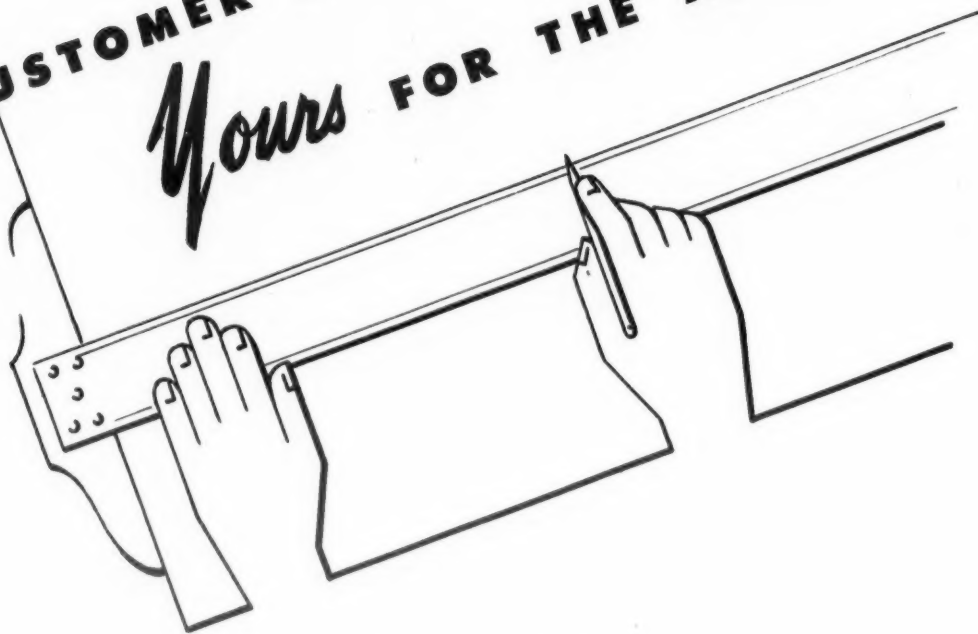
STATISTICS ON PREFERENCE

For the wider, shallower, taller refrigerator with four distinct compartments and separate doors for ice cube trays, frozen foods, dry cold and moist cold foods: 8,282 out of 11,227 answers (73.8%). For the single door, boarding house reach style: 2,945 (26.2%).

The number of answers stating a preference as to whether or not the single door swung right or left: 8,189 out of 10,708 (76.5%). The number of those who didn't care: 2,519 (23.5%).

Those finding the size of their present refrigerators satisfactory at

CUSTOMER ENGINEERING SERVICE
Yours FOR THE ASKING



Here is a service expressly for your use—a service you can call on, without obligation, for help with your refrigeration tubing specifications and requirements.

Feel free to consult our Customer Engineering Service when your problems concern copper or brass seamless tubing.

What to send us: Your blueprint, specifications, complete information regarding your contemplated use of tube.

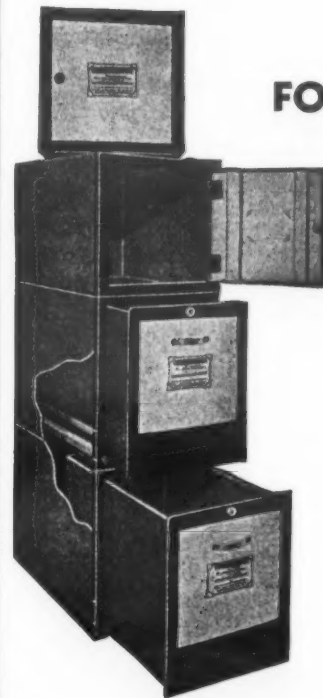
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**Over 700,000
Masterbuilt Lockers
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are solidly built of steel by men who pioneered the industry. They have features that assure profitable and economical Locker plant operation. It costs no more to get the "Choice of the Industry." If you want lockers that meet your every requirement—demand MASTER.

Write for full particulars

Safeguard your investment by getting the facts about MASTER before you buy any locker. It's the first-cost, last-cost locker. Better be safe than sorry.

Endorsed by and sold through distributors of refrigeration and insulation.

MASTER MANUFACTURING CORP.

121 MAIN STREET

SIoux CITY 4, IOWA

Member of Frozen Food Locker Manufacturers and Suppliers Ass'n. organized for your protection.

Over 700,000 Master Food Conservators in Use

Electric and Gas Refrigerators and Ranges Compared In Figures on Present Ownership and Future Buying

(Concluded from Page 16, Column 5)
checked the questions on gas refrigerators and iceboxes dropped several thousands below those tabulated above. For those who did answer, the score read as follows:

GAS VS. ELECTRICITY

For gas refrigerators, will buy: 385 out of 8,567 (4.5%). May buy: 756 (8.8%). Got one: 889 (10.4%). No sale: 6,537 (76.3%). For ice refrigerators, will buy: 115 out of 8,732 (1.3%). May buy: 129 (1.5%). Got one: 1,454 (16.6%). No sale: 7,034 (80.6%).

The best prospects and the least dislike for both gas and ice refrigerators was indicated in the large metropolitan areas, where gas and ice are most available and best served. Many small towns and rural areas have no gas supply, and ice delivery is less profitable.

Among present refrigerator owners, electric boxes were by far the most numerous, being listed by 8,262 out of 11,386 (72.6%). Iceboxes: 1,420 (12.5%). Gas refrigerators: 834 (7.3%). Kerosene: 69 (0.6%). Ownership of no refrigerator at all: 801 (7%).

ELECTRIC RANGES

What with considerable satisfaction expressed with presently owned electric refrigerators, total prospects for this appliance were less than for electric ranges. Yet the positive, will-buy market for electric refrigerators even so was greater, as indicated, than the potential, may-buy market.

Electric ranges promise more sales prospects, 25% more, but electric refrigerators on the other hand have sold more than five times as many. A comparative picture of the postwar market for these two appliances, according to the survey's returns, reads as follows:

Electric ranges vs. electric refrigerators. Number of contestants answering the respective sets of questions: 9,817 vs. 10,948. Must buy: 2,649 (27%) vs. 3,198 (29.2%). May buy: 3,055 (31.1%) vs. 1,272 (11.6%). Got one: 1,943 (19.8%) vs. 5,965 (54.5%). No sale: 2,170 (22.1%) vs. 513 (4.7%).

But if electric ranges have sold far less than electric refrigerators, they have been up against much stiffer competition in their own field—gas ranges. Of the 11,329 women who checked their ownership under this question, 6,864 owned gas ranges (60.6%). Owners of electric ranges: 2,343 (20.7%), a figure comparable to the combined totals of wood, coal, and kerosene stoves (20.8%). Only 231 (2%) had no ranges at all.

And the postwar market promises just as stiff competition. Of 9,801 women indicating their postwar plans, 4,507 (46%) have gas stoves and no intention of changing. 1,298 (13.2%) will buy gas ranges as these become available, 1,059 (10.8%) may buy, leaving only 2,937 (30%) apparently in the clear.



NATIONALLY ENDORSED

Pad is adjustable to all makes and sizes of refrigerator cabinets; thoroughly protects finish of cabinet from scratches and marks during moving; easily and quickly put on or off; sturdy, lasting construction; easily pays for itself in a short time. Price \$11.75 each.

Attractive lettering of your name on pad at \$2.00 each extra.

For carrying your refrigerator more safely and easily, use the Mastercraft Adjustable Carrying Harness which is a separate unit from the pad and priced at \$3.50 each.

Write for complete folder and prices on pads for refrigerators, washers, ironers, ranges, radios; also furniture pads and protective covers. . . . All prices subject to change without notice.

BEARSE MANUFACTURING CO.
Incorporated 1921

3815-3825 Cortland St., Chicago 47, Illinois

Of these 2,937, remember that 2,649 contestants are waiting for electric ranges. The 3,055 who may buy electric and the 1,059 who may buy gas apparently were very often the same people, which promises competitive selling between the two.

In matters of design, 7,408 out of 10,737 owners of all types (69%) have table top models, and in the future market 8,526 out of 11,568 (73.7%) are sold on the idea. Two women out of three want range compartments or drawers to hold their pots and pans (7,640 out of 11,223: 68.1%), and 70% want the controls on a front rather than a back panel (8,118 out of 11,589).

The color preference for both ranges and refrigerators was overwhelmingly for white. Of 11,310 answering, it was the choice of 9,706 (80.2%). Ivory was a poor second (1,702: 15%), with none of the other suggested colors even approaching this figure.

Of the total 11,887 entries submitted, 60.6% (7,208) were from people within the 26-45 age group, representing the most active market for household appliances. The great majority also considered the kitchen the most important room in the house. Their specific ideas thus represent directional suggestions to manufacturers of kitchen equipment.

BUILDING PLANS

It was significant also that of the same total, 45.2% (5,376) plan to build or buy homes after the war,

and that 20.2% more (2,403) intend to remodel their present homes. Of the 5,376 planning to build or buy, 3,997 are going to have their homes built for them, and are planning accordingly. Only 927 will buy houses already built. Prefabricated homes are being planned by 313.

The majority of the 5,376 are planning substantial housing investments. 1,831 (34.1%) will invest \$4,000-\$6,000. 1,464 more are figuring within the \$6,000-\$8,000 bracket (27.2%). The majority of the rest were planning over, rather than under, these figures.

Similar statistics are presented in the rest of the report's 174 pages, giving information on electric dishwashers, water heaters, sinks, garbage disposers, ventilators, fluorescent lighting, kitchen cabinets, pressure saucepans, electric toasters, mixers, roasters, radios, and automatic laundry equipment.

G-E Series on Sales and Service Tours Ohio, Ky.

CINCINNATI—The sixth in General Electric Co.'s series of wartime service and sales meetings has just been completed in the Cincinnati, Dayton, Indiana, and Kentucky areas, according to Paul C. Wilmore, manager of the General Electric Distributing Branch here.

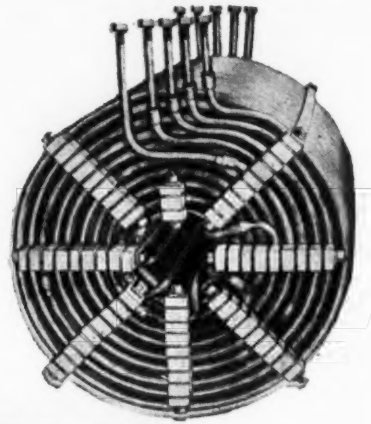
Details of the FEA2 refrigerating replacement unit was discussed. A

sound slide film on "Wringer Repair" was screened. H. A. Barth, service manager of the branch, and A. T. Streever, district service representative, Cleveland, conducted the "service discussion."

The way to store foods in the General Electric home freezer was

explained by Len A. Scharf, G-E sales counsellor. M. E. Davis, G-E Credit Corp., explained the farm finance plans and revealed other G-E C. C. postwar plans. Mr. Wilmore concluded the sessions with a talk on "Distributor Distribution Problems and Dealer Policies."

INTO THIS COIL WE BENT half a mile of COPPER TUBING



Here's a job typical of Swan's skill in precision pipe and tube bending. A certain naval condenser unit takes a lot of copper tubing—two tons of it! *Half a mile of it!* To be bent into a coil no bigger than a small clothes closet. Thermal requirements for maximum efficiency of the unit make necessary the placement of the coil surfaces with great precision in all three dimensions.

Swan Engineering did it! And in quantity! And on time!

Use our advisory engineering service in connection with your bending problems. Swan Engineering will quote promptly on bending jobs large or small, simple or complicated, in any of the usual metals or alloys including stainless steel and aluminum. Send your bending to Swan!

SWAN ENGINEERING COMPANY, Inc.
748 Freilighuysen Ave. Newark 5, N. J.

Thirty Seconds after Victory



Thirty seconds after Victory the world will be a different place.

Precious lives will then be safe . . . high hopes will replace desperate fears.

Post-war will finally have come. And with it . . . what?

As the leader of a great peacetime industry, Carrier promises no miracles. Except the miracle of air conditioning itself . . . broadened to touch the daily lives of men and women everywhere.

Tomorrow . . . a better Carrier Room Air Conditioner will bring you greater comfort . . . restful sleep through hot, humid summer nights.

But the owner of your favorite store, restaurant or theatre will think of his new Carrier air conditioning as a means of turning hot weather into cool cash.

The manager of your office building will find in the famous Carrier Conduit Weathermaster

System a means of attracting more good tenants.

And the manufacturers of a thousand post-war products will prove that air conditioned factories mean not only better and greater output but infinitely happier human relationships.

For air conditioning . . . no longer a luxury . . . has come of age. In the world of tomorrow no home, no store, no office, no hotel, hospital or factory will be truly modern without air conditioning.

Carrier refrigeration will be ready, too . . . ready with improved, giant centrifugal refrigerating machines for the preservation and storage of food and for hundreds of manufacturing processes. And there will be high-efficiency, smaller refrigeration units for

restaurants . . . for food stores . . . for locker plants . . .

Tomorrow will also bring Carrier home freezers of advanced design for city kitchens and farms, better Carrier water coolers for office buildings and industry . . . improved industrial unit heaters for factories, shops and stores.

It was Carrier that created air conditioning 42 years ago. Since then thousands of Carrier men and women have made indoor climate their life work.

Out of the Carrier research laboratories, guided by the engineering genius that developed air conditioning and centrifugal refrigeration have come . . . and will come . . . products marked by mature craftsmanship and the proven ability to master heat and cold.

Thus, tomorrow's market for Carrier air conditioning and refrigeration equipment will be broadened . . . sales opportunities for Carrier dealers will be greater than ever.

Carrier Corporation, Syracuse, N. Y.

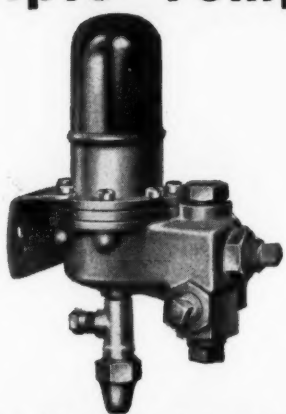
Carrier

AIR CONDITIONING • REFRIGERATION

SNAP ACTION VALVES for Multiple Temperature

Adjustable
from 20" of
vacuum to 63
lbs. pressure

Proven in
Performance



Differential
7 lbs. minimum
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Free from
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Here is a marvelous precision valve designed for systems with more than one coil, operated from the same compressor. Any variety of units such as ice cream cabinets, soda fountains, back bars, water coolers, candy counters, beer coils, storage rooms, etc., may be connected to a single compressor unit by the use of an Aminco Snap Action Valve.

This means more today than ever before, what with the difficulties experienced by the serviceman in satisfying his trade with "too little" material for the work to be done.

Aminco Snap Action Valves are not an experiment. They have proven their worth in years of actual service and are doubly useful under today's conditions when one piece of equipment must do the work of several.

May be used with any refrigerant except ammonia. For flooded as well as dry gas types or any combination of either.

As always, our company is definitely interested in the survival of the refrigeration industry and is doing its utmost to cooperate with established operators.

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William H. Cody, 2nd Unit, 10th Floor, Santa Fe Bldg., Dallas, Texas
Export: Borg-Warner International Corp., 310 S. Michigan Ave., Chicago, Ill.

Postwar Prospects for Air Conditioning In Commercial and Industrial Fields Analyzed

Second Year After War Ends Should be Best, Murphy of Carrier Tells ACRMA Meeting

Editor's Note: This careful analysis of the commercial and industrial market for air conditioning equipment was prepared by E. T. Murphy, vice president of Carrier Corp., for presentation at the recent A.C.R.M.A. meeting. Because of its length, only the first half is appearing in this issue of the NEWS. The second part will be published two weeks hence in the next regular size issue.

By E. T. Murphy, Senior Vice President, Carrier Corp.*

The history of central station air conditioning in the industrial and commercial (comfort) fields, is too well known to warrant detailed repetition here. The general acceptance, the applications, and the basic art of design have, for the most part, been established. In order to establish a basis for a comprehensive recognition of the utility of air conditioning in the industrial and commercial fields, and at the same time provide an indication of the variation and breadth of the market, a review of the fundamental reasons for the existence of air conditioning is essential. These are as follows:

Applications

a. *Hygroscopic Substances.* The control of physical reactions or prop-

*Presented at the meeting of the Air Conditioning & Refrigerating Machinery Association, Nov. 2 and 3, at Hot Springs, Va.

erties of hygroscopic substances is one of the most important functions of air conditioning. This category includes the conditioning of textiles, pharmaceuticals, woods, paper, plastics, and other moisture-absorbent materials.

b. *Biologically or Bacteriologically Affected Substances.* This group covers the field of food and the manufacture and preservation of food products, together with the control of fermentation.

c. *Chemical Products.* The control of rates and limits of chemical reactions is an established and rapidly growing market for air conditioning equipment. The conditioning of synthetic products (such as rayon, nylon, etc.) and the conditioning of air for the reduction of iron ore in blast furnaces are included in this division.

d. *Non-Hygroscopic Products.* The control of physical reactions or properties of non-hygroscopic materials treats mainly with metals. Included in this classification are machines, engines, instruments, optical goods, and electrical products.

e. *Human Efficiency.* The control of physiological reactions for human efficiency, health, and production is the broadest of the group classifications. This group ranges from the essential requirement for industrial production (as in the deep-level mining of gold and copper), through the improvement of working environment in industries (where the heat generated by power and processing equipment creates an atmosphere that is not conducive to production and human efficiency), to the purely com-

mercial application in hotels and theaters.

Refrigeration Requirements in Air Conditioning

It is evident from the above that refrigerating equipment for air conditioning purposes must meet a wide range of conditions and specifications if it is to fulfill the requirements of industrial and commercial operations. A brief summary of the major requirements is as follows:

a. Temperature specifications range from normal requirements of 60° F. for water chilling to -80° F. or possibly lower for brine chilling.

b. Tonnage in these temperature ranges will vary from fractions of a ton in laboratory or pilot installations to installations involving thousands of tons.

c. The equipment must be suitable for or adaptable to the use of a wide range of refrigerants, including F-12, F-22, F-114, ammonia, propane, etc.

d. The equipment must meet the design, physical and materials specifications, and manufacturing techniques as provided by recognized code and industry authorities such as A.S.M.E., A.P.I., and A.S.R.E., as they may apply in the several markets. This applies not only to refrigerating equipment but particularly to coolers, condensers, heat exchangers, and other auxiliary apparatus.

e. Dependability is the most important requirement in the industrial field, and a distinct trend is revealed that this factor is becoming increasingly important to the commercial buyer. Continuous service brought about by dependable equipment is essential to efficient low cost industrial production.

f. Parallel to the continuous service requirements is the need for servicing facilities which must be available immediately upon call. The equipment manufacturer must be prepared to supply equipment parts and supervising personnel when and where required.

(Continued on Page 19, Column 1)

Capsules OF LIFE OR DEATH!

Valves—that's what these are—and their innocent appearance serves only to conceal their importance. For these valves are to modern warfare what the famous "horseshoe nail" (for the want of which the battle was lost!) stood for in the simpler fighting days of two hundred years ago. Designed for the control of oil, gas and other fluids, they are in active wartime service in aircraft of all types on every fighting front.

The four Weatherhead plants have long been fully engaged in making vital parts for the nation's

war machines at the rate of more than a million a day—and are prepared to make the same gigantic contribution to the peacetime needs of the nation!

Look Ahead with



Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND, OHIO
Manufacturers of vital parts for the automotive, aviation, refrigeration and other key industries.

Plants: Cleveland, Columbia City, Ind., Los Angeles
Canada—St. Thomas, Ontario




FREE: Write on company letterhead for "Seeds of Industry"—a history of The Weatherhead Company, its many facilities and diversified products.

IN CHARGED DEHYDRATORS

... IN BULK FOR REFILL ...

DAVISON'S SILICA GEL GIVES YOU Greater Value PER POUND!




The amazing pore-surface and volume of Davison's Silica Gel is fully and effectively exposed to the refrigerant at all times. Moisture, acids, corrosive compounds are removed instantly on contact. Processed especially for the dehydration of refrigerants, Davison's Silica Gel will not cake nor powder, prevents channelling of the refrigerant, is chemically inert and non-reactive to metals or alloys. Effective on Freon, Methyl Chloride, Sulfur Dioxide, and other types of refrigeration systems.

For the 100% dryer efficiency that will make your business more profitable . . . help your reputation as a good service man . . . always specify Davison's Silica Gel from your jobber.


THE DAVISON CHEMICAL CORPORATION
Progress through Chemistry
 BALTIMORE-3, MD.

Canadian exclusive sales agents for DAVISON'S SILICA GEL:
CANADIAN INDUSTRIES LIMITED, General Chemicals Division

Prewar Trend of Industrial Air Cooling Will Continue After War, Says Murphy

(Continued from Page 18, Column 5)

Character of Market

The industrial market is one of very broad scope, having a large number of individual purchasers and a practically unlimited number of presently existing and future possible applications. No distinct pattern of equipment requirements obtains in over-all industry, and few examples of a static condition are apparent in individual industries. Processing procedure and requirements may vary within the same segment, and technological changes are present in the more aggressive and highly competitive companies which will have a marked effect upon the character of the market.

The commercial market is large in numbers and relatively limited in applications. Fundamentally, this outlet is well established technically and no obvious problems involving changes in manufacturing processes or new discoveries are present.

In brief, this market is in the hands of the manufacturer of air conditioning and refrigeration equipment and, in an increasing degree, the consulting engineer. The purchasing procedures have been identified for the various classifications of buyers and the trends are relatively easy to distinguish. Selling methods have been devised for marketing, and the ambition and capacity of the manufacturer is the determining factor in establishing marketing plans and organization.

Size and Trend

The history of industrial air conditioning (dehumidification) has been one of an increasingly expanding market since about 1923 or 1925 when it became a factor, though largely unrecognized, in industrial economics. Early records indicate that the confectionery, pharmaceutical, printing, tobacco, and synthetic fibre industries were among the first to recognize the economic value of conditioning. The manufacturers of electrical products, photographic film, safety glass, etc., followed the trend.

In the early 1930's equipment was developed for the beverage and perishable food industries. Since this time air conditioning has been gaining increased acceptance in this diversified brewery, meat, poultry, dairy, and vegetable field. The war has accelerated the recognition and acceptance of air conditioning in factories heretofore giving it little or no consideration. Powder metallurgy, plastic, ball-bearing, optical and precision machinery, and engine industries have had opportunity to test and appraise the economic value of air conditioning.

There is no question of the continued purchase of dehumidifying equipment by prewar users. A few of these installations will require modernization, and expansion will take place in many instances. Changes in processing and new products in established industries will automatically become good prospects.

Wartime users will be more ready to consider the extension of conditioning to other areas and factories. The postwar industrial trend shows every evidence of paralleling the history of the commercial market from 1925 to 1940 in the acceptance and growth of air conditioning.

Unfortunately, reliable industry statistics relative to the volume of refrigeration for industrial air conditioning are not available. However, the following estimate may be considered to give a reasonable approximation for an analysis of refrigeration volume. The first column of the table gives the estimated total of industrial installed contracts for both process air conditioning and refrigeration and industrial comfort air conditioning.

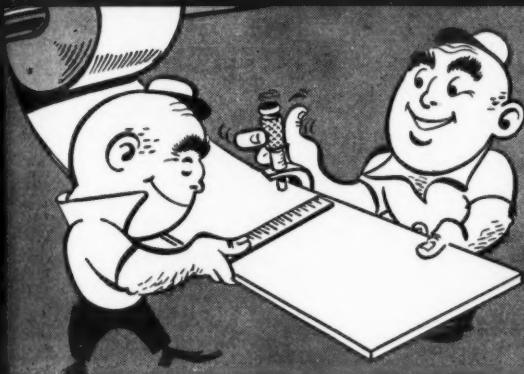
Estimated Installed Central Station Industrial Sales

Year	Total Industrial Air Conditioning and Refrigeration	Estimated Total Refrigeration for Industrial Air Conditioning	Percent Refrigeration
1937	\$ 4,260,000	\$1,515,000	35%
1938	3,652,000	1,431,000	39%
1939	4,120,000	1,803,000	43%
1940	6,740,000	2,244,000	33%
1941	12,445,000	4,830,000	38%

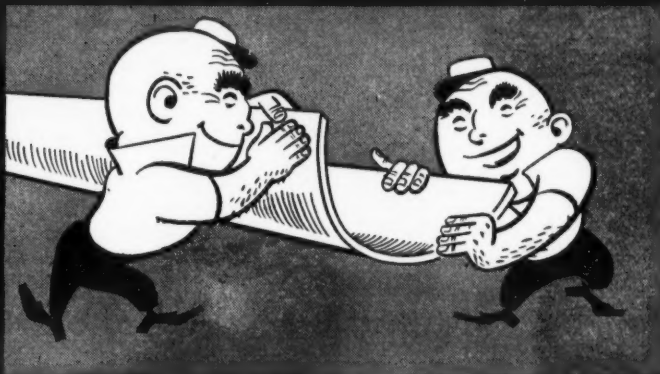
These prewar figures are indicative of the prewar trend of industrial air conditioning and the estimated volume of refrigeration. A continuance of this trend may be expected for a period of from three to five years following unrestricted purchase—providing that a sound and consistent industry program is conceived and put into operation.

(Continued on Page 20, Column 3)

NO SECRET ABOUT BUNDYWELD



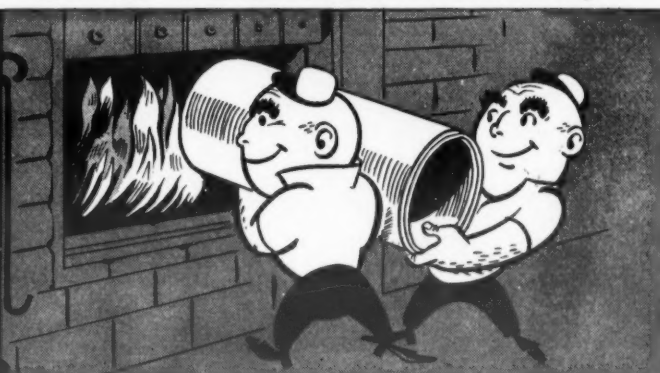
1 Bundyweld Steel Tubing is made by a process entirely different from that used in the making of any other tubing. A single strip—



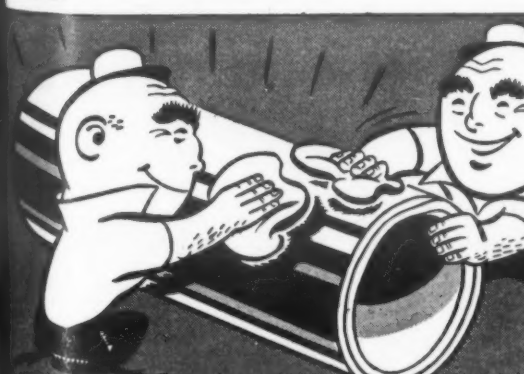
2 —of copper-coated S.A.E. 1010 steel is continuously rolled twice around laterally into tubular form. Walls of uniform thickness and concentricity—



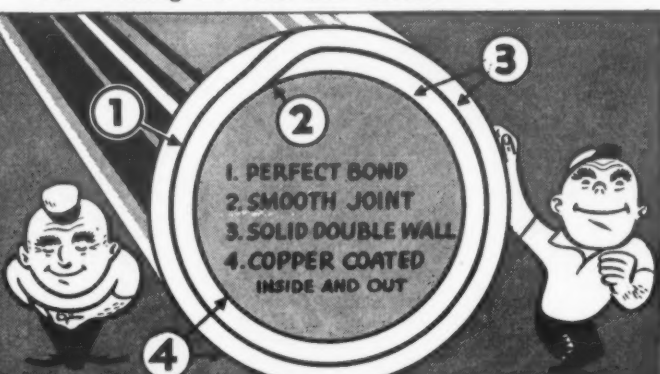
3 —are assured by the use of close tolerance cold rolled strip. This double rolled strip in tubular form is—



4 —next passed through a brazing furnace where it is brazed and cooled in a reducing atmosphere. After brazing the tube has become—



5 —a SOLID double wall steel tube completely copper brazed throughout 360° of wall contact, copper coated inside and out, free from scale and closely held to dimensions. It is—



6 —furnished hard or annealed in a wide range of standard diameters and gauges up to 3/8" O.D. Special sizes, cold drawn as desired. Also furnished in Monel.

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★ ★



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Lapham-Hickey Company
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Chicago 32, Illinois

Rutan & Company
112 South 16th Street
Philadelphia 2, Pennsylvania

Eagle Metals Company
3628 East Marginal Way
Seattle 4, Washington

Stop REFRIGERANT GAS LEAKS

SWIFT AND POSITIVE

LEAK DETECTION

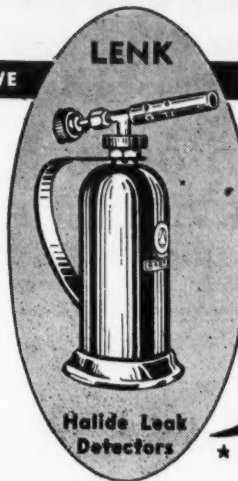
Conserve Irreplaceable Gas

Guard Against Toxic Gas Fumes

Save Time and Labor

★

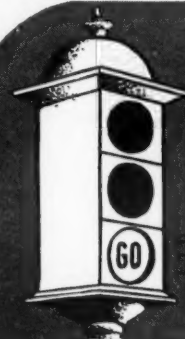
Sound Construction
Flame Control
Shut-off Valve
Self-cleaning Orifice
Non-clogging Burner



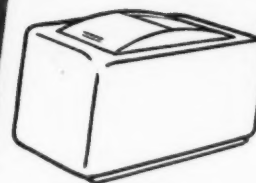
The Lenk Halide Leak Detector is also an Effective Hi-heat Alcohol Blotter.

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MANUFACTURING CO.
NEWTON LOWER FALLS 62, MASS.
Manufacturers of Soldering Equipment Since 1919
ADDRESS: POST OFFICE BOX 64

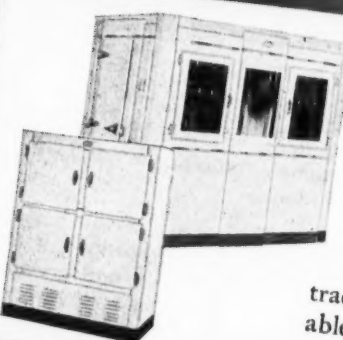


WHEN THE LIGHT CHANGES WILL YOU BE *ready?*



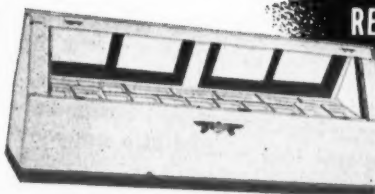
BE READY—WITH SHERER FREEZERS

Juicy steaks, garden-fresh vegetables, fish, wild game and ice cream will be frozen in Sherer Freezers by thousands of Americans on farms, in stores and rural homes the country over. These freezers, available when restrictions are removed, Many models, such as self-serve vegetable and dairy cases, reach-in refrigerators and walk-in cooling rooms, as well as the Sherer distribution franchise, are available now! Write or wire for full details.



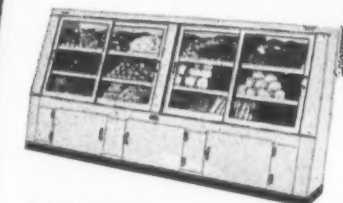
AVAILABLE NOW!

Sherer reach-in refrigerators and walk-in cooling rooms have always been highly regarded by the trade, and extremely profitable for Sherer distributors.



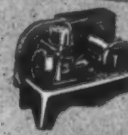
REFRIGERATOR DISPLAY CASES

As a pioneer manufacturer of fine commercial refrigeration, Sherer will offer meat, delicatessen and dairy display cases ranking with the finest, at prices that will bring you profits and volume.



SELF-SERVE VEGETAIRE

Built for generous display and storage, the famous Sherer Vegetaire has for many years been a byword with food merchants as a "builder-upper" of extra fruit and vegetable sales and profits. You will find that Vegetaire sells in volume at a substantial profit to you.



Besides this complete line, Sherer's refrigeration accessory department offers you condensing units, fan and blower type coils, valves, controls and other supplies.

SHERER-GILLET CO.

MARSHALL, MICHIGAN

Your refrigeration parts and supply
house in Central New York and
Northern Pennsylvania

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WHEN PEACE COMES

KOCH

WILL AGAIN PRODUCE COMMERCIAL
REFRIGERATOR EQUIPMENT FOR CIVILIAN USE

NOW SOME SELF-CONTAINED REACH-IN REFRIGERATORS
ARE AVAILABLE FOR THOSE WHO CAN
QUALIFY



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KOCH REFRIGERATORS
NORTH KANSAS CITY . . . MO.



A FILTERING ELEMENT IS NOT ONLY DESIRABLE BUT IMPERATIVE IN AN EFFICIENTLY OPERATING DEHYDRATOR

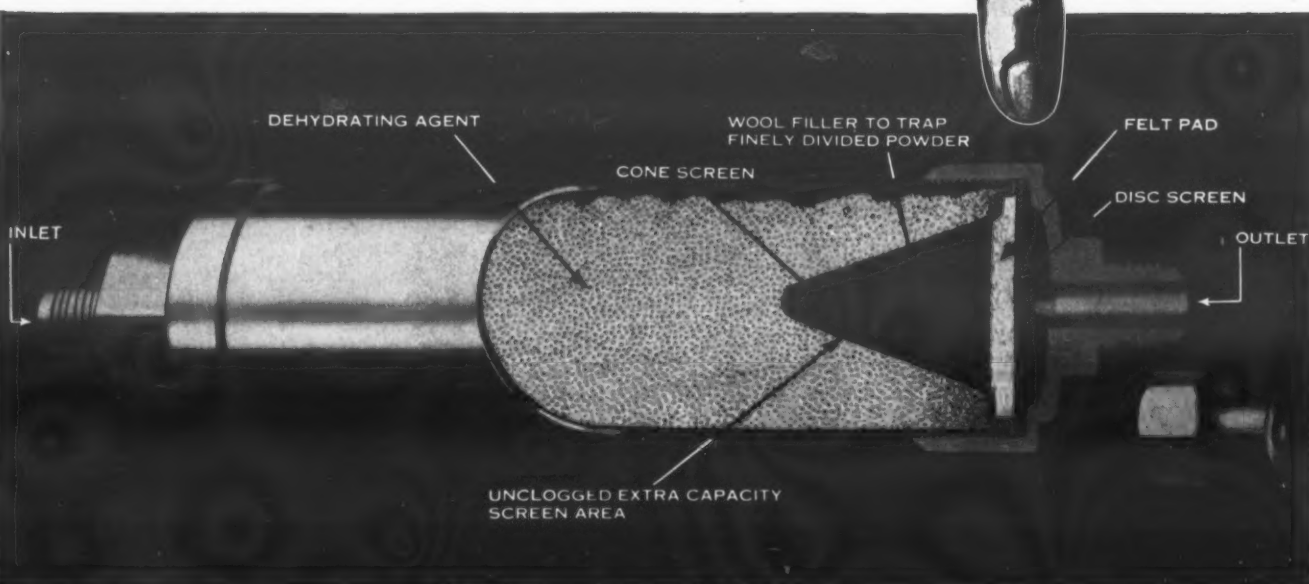
Mueller Brass Co. Filters and Driers feature the CONE SCREEN
OUTLET, a specially designed filtering element that adds immeasurably
to the life and efficiency of driers and filters.

Almost all crystalline dehydrating agents are subject to a certain amount
of abrasion while a dehydrator is in service. Small portions of the
dehydrating agent break down into very fine powder and crystals.
Unless a well-designed filtering element is incorporated in a dehydrator,
these fine crystals and powder have a tendency to clog the outlet
filter, resulting in restriction to the flow of refrigerant.

With the M.B.C. CONE SCREEN OUTLET, such finer crystals and
powder are forced to the base of the cone, leaving the center and
tip of the screen open to the free flow of refrigerant.

In addition, the cone screen is filled with pure wool which traps such
particles that are sufficiently fine to pass through the screen mesh.

Particular attention has been paid to screen areas in Mueller Brass
Co. Filters and Dehydrators, so that each size permits efficient passage
to the maximum refrigerant volume that is used in a particular size
refrigerant line.



Write for Catalog No. 2007

MUELLER BRASS CO.
PORT HURON, MICHIGAN

'Saturation Factor In Air Conditioning Almost Negligible'

(Continued from Page 19, Column 5)

The history of commercial (com-
fort) air conditioning is too well
known for repetition here. However,
as with industrial air conditioning,
reliable statistics are also unavail-
able. The estimated prewar volumes,
as given in the following table, are
not indicative of the future trend of
volume, but rather the reverse of
what the postwar market will require.

Statistics given indicate the esti-
mated total installed contract price
of commercial air conditioning. A
breakdown of refrigeration equipment
is not available, and the estimates
have been made upon the basis of
experience.

Estimated Installed Central Station Commercial Sales

Year	Total Commercial Air Conditioning	Estimated Total Refrigeration for Commercial Air Conditioning	Percent Refrig- eration
1937	\$11,865,000	\$4,372,000	37%
1938	6,380,000	2,560,000	40%
1939	5,785,000	2,560,000	43%
1940	3,950,000	1,980,000	49%
1941	4,940,000	3,050,000	62%

The immediate significance of the
above is the effect of the "recession"
and war preparation on expenditures
for commercial air conditioning. This
trend will reverse immediately after
unrestricted purchase is permitted.
More significant is the steady in-

Is This the Future of Air Conditioning?

	1st Year	2nd Year	3rd Year	4th Year	5th Year
Industrial Air Conditioning	\$ 5,800,000	\$ 9,000,000	\$ 8,600,000	\$ 9,200,000	\$10,000,000
Commercial Air Conditioning	36,000,000	42,000,000	21,500,000	13,000,000	18,000,000
	\$41,800,000	\$51,000,000	\$30,100,000	\$22,200,000	\$28,000,000

crease in percent of refrigeration to
total air conditioning sales. This is
due to a steady trend toward "in-
stalled equipment" sales, in the main
to contractors. This differs from
the industrial air conditioning field
where the "installed complete" kept
pace with the "installed equipment"
sales.

For the first year or two postwar
the completely installed commercial
projects will surpass prewar records,
as will installed equipment. After
this period there will be a downward
trend in "installed complete" business
and a continued upward trend of
"installed equipment." The trend of
this latter type of business will con-
tinue for a total period of approxi-
mately five years, at which time it
may either stabilize or show a de-
crease as saturation is approached.

Saturation of Market

There is no specific yardstick by
which the percentage of saturation of
this market may be measured. Cer-
tain established industries, such as
cigarette and candy manufacture,
may have reached an estimated de-
gree of saturation—possibly to the
extent of 50%. There are, however,
many industries which have not
recognized the economic advantages
of air conditioning at all or only in
part. Technological advancement is
continually providing wider markets
and thereby reducing the degree of
saturation.

In addition, many industries are
expanding into other fields, some only
remotely associated with their origi-
nal industrial function. Examples of
this are the extension of the petro-
leum industry into the chemical fields
and, conversely, the interest of the
basic chemical manufacturers in the
field of hydro-carbons. Another ex-
hibition of this trend is the interest
of the distillers in the manufacture
of processed foods. From an over-all
consideration of the degree of satu-
ration after 25 years of gradual ac-
ceptance of air conditioning by
industry, the factor of saturation is
almost negligible.

The degree of general acceptance
of air conditioning by the commercial
markets has been more rapid than
that of industry, but the pattern is
similar. The large theater is prob-
ably the best example of partial
saturation, but the modernization of
office buildings, hotels, and the virtu-
ally untouched apartment house field,

offers a vast market. New building
projects alone will provide a certain
and sizable market. The degree of
saturation in the commercial field is,
to all practical purposes, negligible.
The volume of air conditioning busi-
ness immediately postwar will con-
siderably exceed that of industrial,
but will not be as sustained as the
industrial business.

Forecast

Economic and political uncertain-
ties of the postwar period, together
with possible technological changes
in both the air conditioning indus-
try and the industrial consumer, re-
move future forecasts from the logic
of sound analysis and place them in
the category of judgment plus specu-
lation. To further complicate the
problem, it is difficult to foretell the
contractor influence upon the volume
of completely installed business by
manufacturers, and the volume of
their sales to contractors. The
above table refers only to the indus-
try's direct sales and does not bear
upon the total national expenditures
for industrial and commercial air
conditioning.

(To Be Continued)

Marshall Field Ups Howard

NEW YORK CITY—Paul H. How-
ard, with Marshall Field & Co. since
1935, has been appointed advertising
and sales promotion manager of the
manufacturing division, with head-
quarters here.



CORDLEY & HAYES
452 Fourth Ave., New York 16
Manufacturers of Water Coolers For 35 Years

JUST OUT! NEW FROM COVER TO COVER

AUDELS REFRIGERATION and AIR CONDITIONING GUIDE

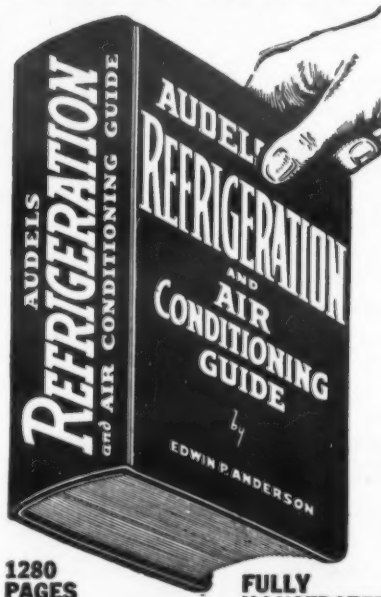
"AUDELS REFRIGERATION & AIR CONDITIONING GUIDE."
4 Books in One: covering the basic principles, servicing,
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A gold mine of essential important facts

for ENGINEERS, SERVICEMEN, SHOPMEN and USE
A good book is a good friend! Here you will have all the
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 - ☐ Audels SHEET METAL WORKERS Handy Book
 - ☐ Audels SHEET METAL PATTERN LAYOUTS
 - ☐ Audels AIRCRAFT WORKER
 - ☐ Audels MATHEMATICS and CALCULATIONS
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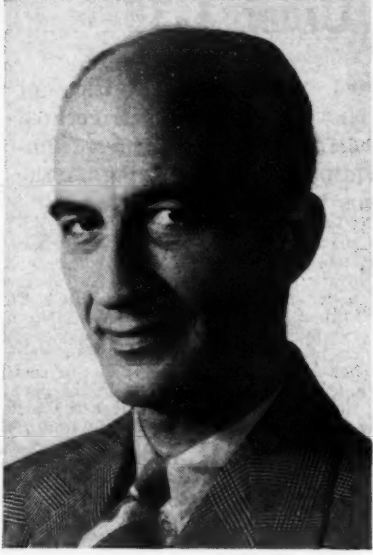
Name _____
Address _____
Occupation _____
Employed by _____

Baker & Smith Named to Alco Posts



ARLEY L. BAKER

Mr. Baker has joined Alco Valve as application engineer, and Mr. Smith has been named district representative in Cleveland.



HUGO C. SMITH

ST. LOUIS—Appointment of Arley L. Baker as application engineer and Hugo C. Smith as field representative with headquarters in Cleveland has been announced by Alco Valve Co. here, manufacturer of refrigeration control valves.

Mr. Baker comes to Alco from Curtis Mfg. Co. where since 1939 he has been district representative for the north central territory. From 1930 to 1939 he was co-owner of the

Machinery Service Co. here and previously had been connected with Mid-continent Equipment and Machinery Co. He studied engineering at the University of Illinois.

Mr. Smith, who will cover Ohio, West Virginia, and western Pennsylvania, has spent 10 years with Frigidaire Sales Co. and five years with Carrier Corp. He was a member of the Cleveland A.S.R.E. before the war.

Frigidaire Appoints 3 Sales Heads at Chicago; Drake at Milwaukee

CHICAGO—G. W. Trask, A. J. Pizza, and C. W. Kirby have been named departmental sales managers at the Chicago branch of Frigidaire Division, General Motors Corp., and F. M. Drake becomes sales manager of the Milwaukee district office, according to an announcement by W. I. Buchanan, manager of the Chicago branch.

Mr. Trask has been named Chicago sales manager of commercial and air conditioning products, following his recent return from 20 months' service in the South Pacific as a major in the Seventh U. S. Army Air Corps. A veteran of World War I, Mr. Trask started with Frigidaire as a salesman in Nashville, Tenn., in 1927. As sales manager, he will have charge of all dealer activities in the commercial and air conditioning field of the Chicago branch.

Mr. Pizza, who is the new sales manager of national users products and ice cream cabinets, started with Frigidaire several years ago in the service department. He later moved into the commercial and air conditioning field, and was field representative in the ice cream cabinet division at the time of his latest promotion.

Mr. Kirby, the new appliance sales manager at Chicago, was for several years prior to the war appliance sales manager in the New York branch. Since the beginning of the war he has been on General Motor's public relations staff at Detroit.

Mr. Drake, who has been with the Frigidaire sales organization for the past 20 years, will head the sales force of a newly organized Wisconsin and Upper Michigan Peninsula district office being established in Milwaukee. Prior to his field work in this territory, Mr. Drake was employed for many years in Frigidaire's home office at Dayton, Ohio, the Dayton branch, and in Nashville, Tenn.

Alfred Rose Appointed General Sales Manager Of Portable Elevator

BLOOMINGTON, Ill.—Alfred H. Rose, who joined Portable Elevator Mfg. Co. a year ago after serving on the War Production Board as an industry advisor in the stove division, has been appointed general sales manager of the company.

Before joining WPB, Mr. Rose, a graduate of the University of Illinois, had been sales and promotional manager of the Moore Stove Corp. in Joliet, Ill. for seven years, assistant general sales manager of City Ice & Fuel Co., and divisional manager of National Cash Register Co.

"Mr. Rose's promotion is in line with company postwar plans which include the development of both the agricultural and refrigeration divisions of our business," declared Wm. M. Caudell, Sr., vice president and general manager.

"Early indications in our 'Freeze-All' home freezer department, which we began developing over a year ago, show that sales in this new production alone will exceed our total

volume before the war," said Mr. Caudell.

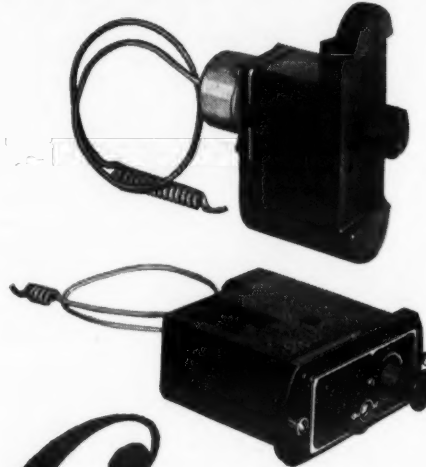
"In addition, contracts already made with large purchasers of beverage coolers, which for many years have been Portable Elevator Mfg. Co.

products, are also highly gratifying. One order alone calls for over a million dollars' worth of coolers.

"In the near future Mr. Rose will begin a program to greatly expand sales and service facilities in our

agricultural equipment department. In this division, too, increased production is being planned for, as the need of farmers for grain-hoisting machinery is very evident," added Mr. Caudell.

Assure the CORRECT CYCLE with the THERMOSTAT ENGINEERED for GRUNOW



★ The thermostats on which you can definitely rely for the best operation of Grunow refrigerators are genuine Cutler-Hammer. These controls have been engineered for use exclusively in Grunow refrigerators and meet all specifications necessary to provide the correct cycle. Use the one correctly-designed type of thermostat and safeguard your Grunow service operations.

Do you have a copy of THE NEW GRUNOW SERVICE BULLETIN?

Send for it today! Price 50c

Grunow
AUTHORIZED SERVICE, INC.

4313 W. Fullerton Avenue, Chicago, Illinois

FACTORY TESTED PARTS

Factory Rebuilt CURTIS REFRIGERATION COMPRESSORS Available for Emergencies

★ Many refrigeration suppliers and dealers are experiencing difficulty in furnishing satisfactory repairs for refrigeration compressors now in service. This is due to limitation orders on new equipment, a serious shortage of manpower, and other conditions beyond their control.

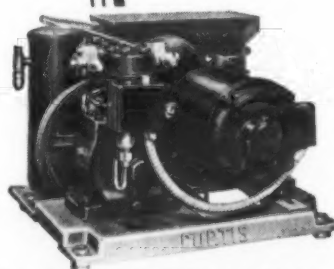
To keep essential Curtis refrigeration on the job while new equipment is restricted for the duration, Curtis reminds you FACTORY REBUILT REFRIGERATION COMPRESSORS are available on an EXCHANGE basis. These compressors are sold in exchange for Curtis compressors needing repairs and are fully guaranteed.

By utilizing this Curtis exchange plan, you can secure a factory-rebuilt and guaranteed Curtis compressor, which will give you long, dependable, and efficient service.

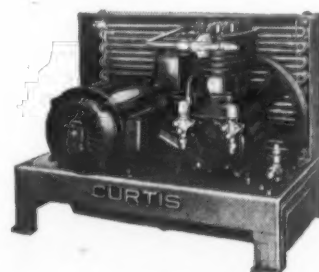
This is but another example of how, despite shortages and limitations, Curtis is making every effort to be of the greatest possible service to dealers and users of Curtis equipment.

Today, Curtis' war job is building more and more Curtis products for our Armed Forces and Essential Industries. This wartime experience, added to that accumulated by Curtis in the past 90 years, assures even finer Curtis equipment for civilian uses after Victory is won.

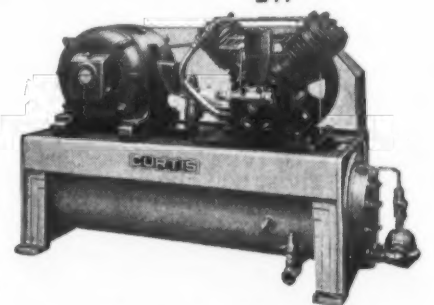
★ ★ ★ Conserve Metals — Buy War Bonds ★ ★ ★



1/2 hp. Air-cooled Condensing Unit



1 1/2 hp. Air-cooled Condensing Unit



15-ton Water-cooled (Shell and Tube Type) Condensing Unit

CURTIS
REFRIGERATION
AIR CONDITIONING
AND COMMERCIAL

CURTIS REFRIGERATING MACHINE DIVISION of Curtis Manufacturing Company
1912 Kienlen Avenue, St. Louis 20, Missouri

SALUTE TO THE WEST

This important, growing frontier is doing a magnificent job. Keeping pace with the growing West is the California Refrigerator Co., of San Francisco and Oakland, California, progressive jobbers in refrigeration and air conditioning supplies, replacement parts, equipment and tools.

Outstanding, indeed, is this company's record of long experience and dependability as an efficient source of supply, both for the armed forces and the civilian trade.

In this day of unprecedented distribution problems, concentrated and intelligent effort is doing an important job—for today and tomorrow.

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Always on Hand with Fresh, Clean, COOL Water



OASIS
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WATER COOLERS

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The **EBCO** Manufacturing Company
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Text of Order Transferring Control of Farm Milk Coolers to Order L-38

Editor's Note: As was reported in the Nov. 13 issue of AIR CONDITIONING & REFRIGERATION NEWS, control of refrigerated farm milk coolers has been transferred from L-257 (Farm Machinery) to L-38 (General Industrial Equipment). Following is the text of Direction 2 to L-38, effecting the transfer.

PART 1226—GENERAL INDUSTRIAL EQUIPMENT [Limitation Order L-38, Direction 2] MECHANICALLY REFRIGERATED FARM MILK COOLERS

(a) **Purpose of this direction.** This direction is issued pursuant to paragraph (g) (2) of Order L-38, and establishes the rules governing deliveries and production of farm milk coolers of the types which are mechanically refrigerated. It supersedes the rules formerly contained in Limitation Order L-257 and L-257-a, and all directions to those orders, and covers the period from July 1, 1944, until June 30, 1945. It applies to all farm milk coolers of the immersion, surface, or tubular type which are mechanically refrigerated, and these are referred to below simply as "farm milk coolers." Types which are refrigerated only by cold water or by ice are not subject to this direction.

RESTRICTIONS ON DELIVERIES

(b) (1) **Deliveries for use in cooling milk.** A farm milk cooler, or a refrigeration system for use in a farm milk cooler, may be delivered without a rated order to any farmer who needs it to cool milk which he sells, if the farmer gives the seller a signed certificate in substantially the following form:

I certify to the War Production Board that I am a farmer, and that I need the farm milk cooler, or the refrigeration system for use in a milk cooler, covered by this order, immediately and will use it for cooling milk which I sell.

No person shall furnish a false certificate. A seller must not deliver a farm milk cooler, or a refrigeration system for

use in a farm milk cooler, to any person for use, unless the seller has received such a certificate (or unless he receives an order from the purchaser rated AA-5 or higher, as explained below). No delivery may be made under any order which is so certified, if the seller knows, or has reason to believe that the certificate is untrue, incomplete, or inaccurate. In such a case he must reject the order, and should explain why he is doing so, so that the prospective purchaser can comply with this order. Each seller must keep all accepted orders and certificates which he receives for a period of two years, for inspection by the War Production Board. The standard certification in the form described in Priorities Regulation 7 cannot be used instead of that described above.

However, a farmer who has received a purchase certificate from a County Farm Rationing Committee for a farm milk cooler, or for a refrigeration system for use in a farm milk cooler, under the former orders of the War Food Administration, and who has been unable to secure delivery of the equipment, may give such certificate to his supplier instead of the certificate described above, and the supplier may deliver such equipment to him, unless the supplier knows or has reason to believe that the purchaser has already received the equipment for which the certificate was issued.

A dairy or other milk processor who is not a farmer may apply on Form WPB-1319 for a farm milk cooler for processing, storing, or cooling milk, and if the application is granted, the delivery may be made in accordance with Order L-38.

As used in this direction, "farmer" means a person who engages in farming as a business, and sells milk as a part of such business.

(2) **Distribution to dealers.** A producer or distributor may deliver either a complete farm milk cooler (including its condensing unit) or a farm milk cooler cabinet only, but not a condensing unit sold separately as such, to a distributor or dealer without regard to preference ratings, unless otherwise specifically directed in writing by the War Production Board. Condensing units sold separately as such may be delivered only in accordance with the rules in Order L-38.

RESTRICTIONS ON PRODUCTION

(c) During the twelve-month period which started July 1, 1944, and ends June 30, 1945, no person shall manufacture more farm milk coolers than the following:

(1) A producer who has a production schedule for farm milk coolers which was filed on Form WPB-3181 pursuant to paragraph (e) of Limitation Order L-257 and approved by the War Production Board may not manufacture farm milk coolers in excess of the quantities shown

on such schedule.

(2) A "small producer" may not manufacture more than 109% of his base production of immersion type farm milk coolers, or more than 100% of his base production of surface or tubular type farm milk coolers.

(3) A producer who had no base production in 1940 or 1941 may manufacture an aggregate of not more than \$2,500 (factory sales price) of immersion, surface, and tubular type farm milk coolers.

(4) Any person who, before Nov. 2, 1944, has received specific written permission, direction, or authorization from the War Production Board, by appeal or otherwise, to manufacture farm milk coolers in excess of the quantities permitted him under the general terms of Limitation Orders L-257 or L-257-a, or specific permission under Direction 4 to Order L-257, may also produce the quantities so authorized.

As used in this direction, "base production" means the weight of a producer's total manufacture of farm milk coolers for sale in the United States during either the calendar year 1940 or 1941, in whichever year such weight was the greater; and "small producer" means any producer whose total net sales (including exports and sales by affiliates) of all products did not exceed \$100,000 during the calendar year of 1941, and includes any other producer who has been listed by the War Production Board as a "smaller distressed producer" and was specifically designated as such for the purpose of Order L-257 by the War Production Board.

(d) The War Production Board may, by specific written directions or authorizations issued to any producer or other person affected by this direction, increase or decrease any authorized production of farm milk coolers, and may transfer any portions thereof between producers, taking into account the amount and weight of materials to be used, the need for particular coolers at the time required in particular areas, the labor and transportation situation in the manufacturing areas involved, and such other factors as may be proper.

(e) Order L-38. To the extent that any provision of this direction is inconsistent with the terms of Order L-38, the provision in this direction controls.

Issued this 2nd day of November, 1944.

MANHATTAN
FHP V-BELTS

MORE POWER

Grips the grooves... stops slip—flexible construction for uniform "pull"

LONGER WEAR

Endless cord construction resists internal heat and side wear.

SILENT RUNNING

Smooth running and noiseless on high-speed drives.

THE MANHATTAN RUBBER MFG. DIVISION
of Raybestos-Manhattan, Inc.
Townsend Street Passaic, New Jersey



This Book May Help You Pick THE FINISH FOR YOUR POSTWAR REFRIGERATOR

**Polymerin Finish Dries Faster,
Stays Beautiful Longer!**

"The Facts on Polymerin" describes the two-way competitive advantages you can gain by finishing your postwar refrigerators and coolers with durable, speed-bake Polymerin.*

Polymerin for refrigerators and coolers is an organic baking enamel formulated with particular emphasis on lustrous, non-yellowing appearance and maximum resistance to grease and humidity. Polymerin stays beautiful longer—it is a finish that is fit companion to the mechanical smoothness and durability your postwar

products will have. Polymerin—the original speed-bake finish—offers production advantages, too. For Polymerin's speed-bake qualities result in savings which can help you to keep your finishing costs low!

Regular Polymerin is not available now, but it is time now to discover how Polymerin can help you make and sell a better product after the war! Use the coupon below to get your free copy of "The Facts on Polymerin", a 32-page booklet which presents clearly and factually the sales and production advantages of a Polymerin finish. This information-packed booklet is yours for the asking... send for a copy today!

*Reg. U.S. Pat. Off.

POLYMERIN

The Original Speed-bake Finish

A PRODUCT OF AULT & WIBORG

DIVISION OF INTERCHEMICAL CORPORATION

Ault & Wiborg Division of Interchemical Corporation
Empire State Bldg., New York 1, N.Y.

Please send, without obligation, a free copy of "The Facts on Polymerin"—the book that shows how a Polymerin finish can increase sales and reduce finishing costs.

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Company _____

Address _____

THE GAUGE THAT CAN BE KEPT ACCURATE



No one has ever found a way to make a pressure gauge that can't be knocked out of adjustment. But Marsh has developed the next best thing—a handy, basically sound way to correct a gauge that has been thrown out of adjustment by shock or over-pressure.

When a Marsh pointer fails to return to zero, you simply turn the "Recalibrator" screw, as illustrated above, until the pointer coincides with the zero mark.

Most errors in gauges are caused by distortion of the bourdon tube, which produces an improper relation between the tube and the movement. The conventional method of merely resetting the pointer does not correct this relationship. As a result the gauge may remain incorrect at certain points on the dial.

But the "Recalibrator" actually re-establishes the relation of the tube to the movement—actually does "re-calibrate" the gauge.

The manufacturer who takes the most pains to build a gauge that is accurate would naturally be the manufacturer to provide the best means of keeping it accurate!

JAS. P. MARSH CORP., 2067 Southport Avenue, Chicago 14, Illinois
Export Department: 155 East 44th Street, New York 17, New York

MARSH

Refrigeration Instruments



Army Refrigeration Problems

By P. B. Reed

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

Methods of Varying the Capacity of Condensing Units (Part 5)

SLIP-RING MOTORS

Slip-ring, three phase or two-phase motors may be used to obtain a wide variation of speed from a few percent of full-load to full-load either by manual adjustment or by automatic control. Slip-ring motors are electrically less efficient than the squirrel-cage type and are avoided because of operating economy reasons as well as the original cost of the motor and controller equipment.

USING SEVERAL UNITS

Obviously the load can be distributed over several condensing units and one or more of these units may be started or stopped in order to balance the total capacity to variations of load.

If two or more compressors operate on one evaporator coil, oil trouble is frequently encountered if one or more of the compressors are stopped, leaving others running on the common suction and discharge lines.

If each compressor operates on a separate evaporator with others in the same refrigerated space, one tends to "hog" the load, making it difficult to get equitable distribution of load and proper cutting in and out of the other units.

PISTON CLEARANCE CONTROL

Another method that is used quite successfully by some manufacturers of compressors is to vary the capacity of the compressor by varying the clearance volume of the compressor (See Feb. 28 article.)

One such method provides for in-

creasing the clearance volume of the compressor to reduce its capacity. A passage is provided from the top of the cylinder to a space known as a "clearance pocket." If the load drops off, electrically or pressure operated valves in the passages from one or more cylinders are opened and some of the compressed gas goes into the "clearance pocket" instead of through the discharge valve into the condenser.

When the piston goes back downward on the suction stroke, the compressed gas in the clearance pocket expands into the cylinder and forms a pressure that prevents the cylinder from getting as full a charge of gas from the suction line as it would have had there been no clearance pocket; that is, had the valve in the passageway been closed. Capacity reduction by this method is accompanied by reduction in power (wattage) although not in the same ratio since the fractional load remains constant. Also, it permits close maintenance of a normal suction pressure and evaporator temperature even with fluctuations of load.

AUTOMATIC CONTROL OF EFFECTIVE DISPLACEMENT

Still another method is used by one manufacturer whose compressor is the radial type, the design and construction of which is well adapted to the method used for varying the compressor capacity with the load on it. A reduction of load tends to cause a reduction in suction pressure, which in turn is transmitted by oil

pressure to push-rods that push the suction valve off its seat thus keeping that cylinder from pumping.

If one cylinder cutting out is not enough and the suction pressure still tends to drop, successive cylinders cut out (the suction valves are raised from their seats) until the pumping capacity of the compressor balances with the load.

As load builds back up, the cylinders cut back in as needed to keep the normal suction pressure and preserve the balance between compressor capacity and the load.

This is accomplished automatically with the compressor speed maintained constant, which allows the use of a simple squirrel-cage induction motor

and there is a savings of power (wattage) along with reduction of effective displacement by cutting out one or more cylinders.

TOTAL CAPACITY VARIATION BY VARYING RUNNING TIME

On many small installations, capacity variation with variation in load is not required for there is enough latitude allowable in the temperatures required and the cycling of the condensing unit provides sufficient capacity variation over 24 hours to balance the load in the same period, and there is not a wide enough fluctuation of load in a short period but what is acceptable.

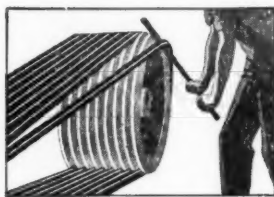
It is only on those installations on which close control of temperatures and/or humidity is required, or where the load variation is so great as to adversely affect operating economy or endanger the equipment, that extra measures such as those discussed in the foregoing are necessary.

There are many combinations and variations of these methods that may be used, governed by the conditions on the individual installation. It is suggested that the Jan. 31 article be reviewed.

How to Lengthen V-Belt Life -

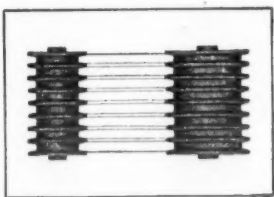
ON ALL REFRIGERATION AND AIR-CONDITIONING SYSTEMS

You never need to "baby" your tough, firm-gripping Dayton V-Belts, but if you will give them just reasonable care you can add months and years to their remarkably long lives. With the vast increase in the use of Dayton V-Belt Drives for compressors and fans in commercial, industrial and military service, proper maintenance becomes more than ever a patriotic duty. Here are 9 helpful hints:

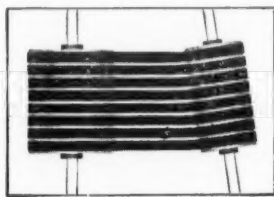


1. When installing, don't pry V-Belts over pulley grooves—instead, slide motor forward and drop belts over the pulleys. Then move motor back until the proper tension is obtained.

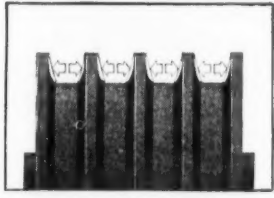
2. When the proper tension is reached, belts have "live springy vibration." When too much slack exists, belts feel dead when struck by hand.



3. Check and line up pulleys, groove for groove, and in parallel. Misalignment wears both belts and pulley grooves excessively.



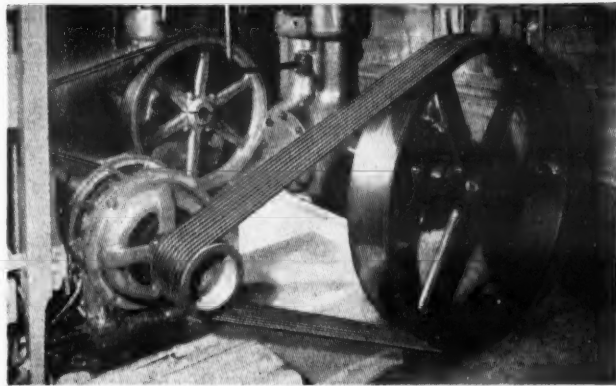
4. Check both shafts for parallel alignment so each belt can pull its share of the load.



5. Check and replace worn pulleys—they wear out belts prematurely.

6. Don't replace a part of a set of V-Belts with new belts as the new belts will hog the load and wear out quickly. Instead, replace the whole set and conserve any good belts from the old set for spares.

7. Don't let oil leak on V-Belts. Where an oily condition prevails, use the Dayton Oil-proof V-Belt.



8. Don't hang V-Belts on nails, hooks or across boards or other objects which might cause them to bend sharply.

9. Belts not in use should be stored in a cool, dry place away from direct sunlight and

high temperatures.

You are invited to call on your nearest Dayton Distributor for helpful suggestions or service. He will gladly help you with your V-Belt problems.

THE DAYTON RUBBER MFG. CO., DAYTON 1, OHIO
Co-Operators of a Government Synthetic Rubber Plant
DAYTON RUBBER EXPORT CORPORATION
38 Pearl Street, New York, N. Y., U. S. A. Cable Address: WIDBLOC

V-Belts by

Dayton Rubber

The Mark of Technical Excellence in Synthetic Rubber

WRITE FOR FREE WALL CHART

CAN'T SAY IT TOO LOUD!

ICE-X PREVENTS FREEZE UPS AT EXPANSION VALVE and CAPILLARY TUBE

ICE-X quickly cures emergency freeze ups when ice forms at the expansion valve or capillary tube. Harmless to use. Great for Freon, Carrene, or Methyl Chloride systems . . . The dependable liquid anti-freeze.

ORDER FROM YOUR JOBBER OR -

THE HARRY ALTER CO. 1728 S. MICHIGAN AVE. CHICAGO 16, ILLINOIS

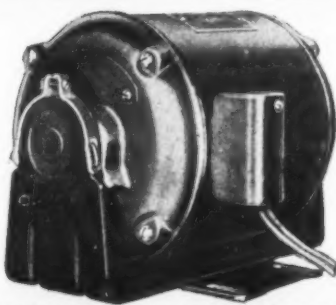
Tomorrows AIR-CONDITIONING AND REFRIGERATION EQUIPMENT is being planned Today!

Foresighted manufacturers are planning and designing air-conditioning equipment to sell in postwar markets. Many improvements and refinements will be incorporated. Dependable motor power must be given careful consideration, and Wagner engineers too are looking ahead and designing motors that will do an economical and dependable job on such new postwar equipment.

MOTORS
TRANSFORMERS
UNIT SUBSTATIONS
INDUSTRIAL BRAKES
BRAKE LINING

Consider Wagner MOTORS in your Postwar plans...

Wagner engineers are making a straight-from-the-shoulder offer to help you—to make your problem their problem—to assist you in every way possible to turn out exactly what should be the motor drive on your apparatus.



Wagner Type RA, repulsion-start induction motor. Made in various speeds, frequencies, and voltages; rigid- or resilient-mounted; 1/8- to 15-hp.

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6441 Plymouth Avenue, St. Louis 14, Mo., U. S. A.
ELECTRICAL AND AUTOMOTIVE PRODUCTS

If YOUR AIR-CONDITIONING OR REFRIGERATION EQUIPMENT has gone to War...

If the equipment you are now manufacturing is essential to war production plants, housing projects, or to the armed forces, Wagner will gladly figure with you on your requirements. Consult the nearest of Wagner's 29 branches, located in principal cities and manned by trained field engineers.

Write FOR BULLETINS

Bulletins MU-182 and MU-183 fully describe the comprehensive line of Wagner motors. Service Instruction Manuals MU-77B and MU-30B too will be of help.



Commercial and Domestic REFRIGERATOR HARDWARE



NATIONAL LOCK COMPANY
ROCKFORD, ILLINOIS



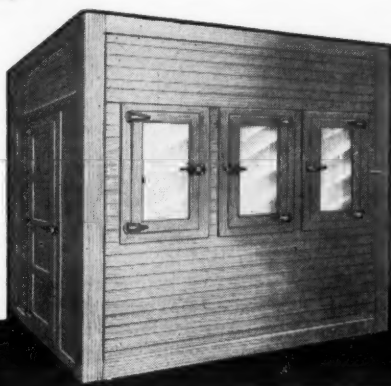
"Walk In" COOLERS

AVAILABLE NOW TO BUYERS WITH PRIORITY... in any size or type. Amana's long experience in building "Walk-In" Coolers is assurance of efficiency and long service. Insulation of latest models is of corkboard or "Fiberglas" insuring extra economy and top cooling ability.

REFRIGERATION DIVISION
AMANA SOCIETY
AMANA, IOWA



Awarded the Army-Navy "E" with White Star for continuance of excellence in production of war materials.



Need For Standard Methods of Rating Home Freezers Cited by Dr. Tressler

'Slow' Freezing In Home Units Gives Adequate Protection, Locker Men Told

By Dr. D. K. Tressler, Manager, General Electric Consumers Institute*

During the period 1938 to 1942, the number of locker plants in the United States increased from 1,269 to more than 4,000. Since then, the number has gone beyond the 5,000 mark. This means that nearly 2,000,000 families have become accustomed to frozen foods because of their use of locker plants. This means, too, that when home freezers are manufactured in quantity after the war there will be an already established market for them among the locker plant users.

Housewives Like Freezers

Housewives find the ownership of a home freezer very desirable. It is an on-the-premise convenience; it enables her to conserve much perishable food which otherwise might go to waste. It is simpler and easier, in general, to freeze food than it is to preserve it by other methods, and the results correspond much more nearly in quality to the fresh product.

Prior to 1937, all of the home freezers in use were either home-

made or custom-built. In the three years before the war, factory-built models were available but the public was slow to accept them. However, acceptance mounted to a substantial demand during the war years when foods were scarce. To meet this demand, many ice cream holding cabinets were converted for freezing and storage of foods, although ill-adapted for the purpose because of inadequate temperature control and poor insulation.

Factory-Built Models

Test Various Designs

The factory-built models, however, have provided a proving ground for efficacy of design: lift-top chest models; upright or side-opening freezers; rectangular freezing and storage compartments; cylindrical freezing and storage compartments; single compartment in one unit; multiple compartments in one unit; single temperature control for all compartments; thermostatic temperature control for compartments.

Most of the freezing cabinets thus far have been used to maintain a temperature of 0° F., although some models have freezing compartments which may be turned down to -20° F. Foods cannot be "quick frozen" in home freezers as none will freeze foods as rapidly as they can be frozen in commercial quick-freezing equipment. However, there is not the necessity for quick freezing in home freezers, especially for foods packed in small containers. What is important is to chill the food rapidly down to below 50° F., the point where micro-organisms grow very slowly and chemical actions are markedly retarded.

Overloading Hazardous

The greatest hazard in home freezing is overloading, since in such a case food may actually spoil before it is frozen.

Two simple means of accelerating freezing have been suggested: the

placing of a small fan in the freezer in such a position to cause a rapid movement of air over the product being frozen; placing the food on a metal plate in which a refrigerator is being circulated.

Adequate storage temperatures approximately 0° F., are just as important as proper freezing temperatures. If storage temperature is maintained much above zero, the fat of meats soon turns rancid, fruits gradually discolor, and both fruits and vegetables lose vitamin C rapidly.

In a temperature as high as 15° F. vegetables lose both color and flavor.

The Rural Electrification Administration has suggested tentative "functional specifications" for "home freezer and storage chests" of 20 cu. ft. capacity.

A committee of the National Electrical Manufacturers Association is studying the rating of home freezers.

The American Society of Agricultural Engineers Committee on Agricultural Refrigeration is working on standard test procedure for farm freezers and storage cabinets.

Standards Are Needed

That there is need for standardization and standard methods of rating is well illustrated by a current advertisement which states that the low temperature section of a refrigerator has a capacity for storing two bushels of frozen food at a temperature 22° below freezing.

Now two bushels of spinach prepared for freezing would not require the same cubic foot storage space as two bushels of peaches, or strawberries; and since foods freeze at 32° F., 22° below freezing indicate a temperature of only 10° F., not sufficiently low enough to prevent deterioration of the food during storage.

The average quality of the food frozen in home freezers now in use is excellent. Home freezers enable person to carefully select the food to be frozen. If directions for preparing, packaging, and freezing are followed carefully, a product can be produced equal to or superior to that of commercial products.

(Concluded on Page 25, Column 1)

HAVE YOU FORGOTTEN ANYTHING?

COMPLETE STOCKS OF THE BEST IN REFRIGERATION AND AIR-CONDITIONING NEEDS IN ONE STOP AT

ALCO JOBBER'S NAME AND PHONE

Abrasives
Back Pressure
Regulators

Evaporators
Fans
Filters
Fittings
Float Valves
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Fuses
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Oil
Outlet Boxes
Packing
Paint
Parts
Pipe
Pulleys

Putty
Receivers
Refrigerants
Regulators,
Evaporator Pressure and Water
Screens
Screws
Seals
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**SAVE GAS, TIRES
AND TIME with this
handy CHECK LIST**

Another reason it pays to buy
from your ALCO JOBBER

Couplings
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ALCO VALVE CO.
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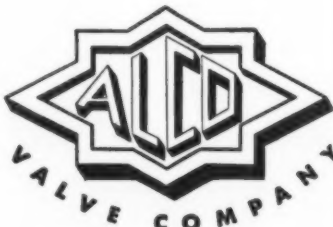
DESIGNERS AND MANUFACTURERS OF
THERMOSTATIC EXPANSION VALVES;
PRESSURE REGULATING VALVES;
SOLENOID VALVES; FLOAT VALVES.

Here's just what you need—a handy check list (8½ x 11 inches wall card) of refrigeration and air-conditioning needs. Helps you keep stocks complete—saves you gas, tires and time by avoiding extra trips to your jobber for items forgotten or overlooked. A time and money-saving convenience you'll appreciate.

Ask Your Alco Jobber for Your Complimentary Copy



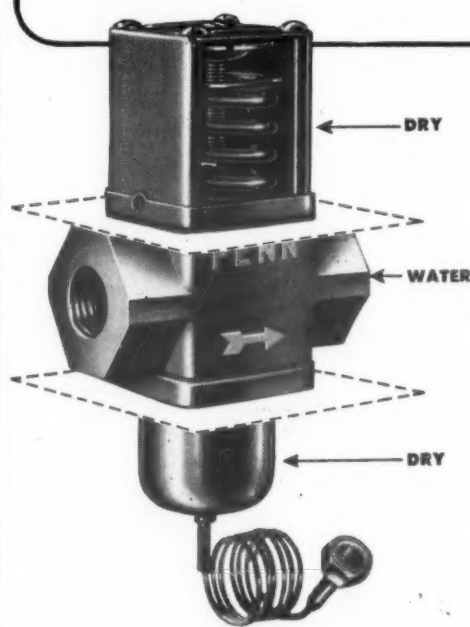
BUY WAR BONDS—AND KEEP THEM



853 Kingsland Ave., St. Louis 5, Mo.

Designers and Manufacturers of Thermostatic
Expansion Valves; Pressure Regulating
Valves; Solenoid Valves; Float Valves.

Zoned for safety!

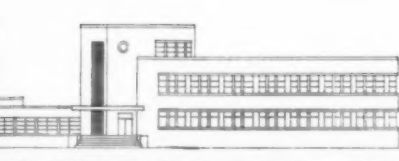


• Here's the one sure way to keep Sedimentation, Corrosion and Rust away from sliding parts. In this new water regulator, the PENN Series 246, water flows in the center section only—never above or below. Consequently, range spring and sliding parts are bone dry—free from abrasive deposits. Valve seats can't stick, nor range springs turn rusty. Nothing here to invite premature wear.

Water hammer has been eliminated, too, and yet the valve is very sensitive to changes in refrigerant head pressure. Manual flushing is yet another feature of all PENN Water Regulators. They're available in

styles—flanged and threaded—and in a wide capacity range. For further information, ask for Bulletin R-198 Penn Electric Switch Co., Goshen, Ind. Export Division 13 E. 40th Street, New York 16, U. S. A. In Canada Powerlite Devices, Ltd., Toronto, Ont.

PENN



AUTOMATIC CONTROL

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

prewar period, you can and will make a definite contribution to the diets of families throughout the United States by providing more palatable foods, more nutritious foods as well as a greater variety of foods at a relatively low cost to your patrons.



New Lock, Hinge Designed For Frozen Food Chests

ROCKFORD, Ill.—A new lock and stop hinge designed specifically for low temperature chest type refrigerators has been introduced by the National Lock Co. here.

Construction of the lock permits the hand to grip the handle conveniently between the index and second fingers and raise the lid of the cabinet with a natural rotation of the wrist, so that the other hand is free to place or remove products from the freezer, the company claims. A padlocking feature has also been incorporated.

A special stop in the joint of the new hinge will keep the lid of the cabinet open at an angle of 105°. This new offset hinge is made of stainless steel.

Lambe Now Vancouver Sales Head of Canadian Firm

VANCOUVER, B. C.—H. M. D. Lambe, formerly sales manager of the Canadian Fish & Cold Storage Co., Ltd., at Prince Rupert, B. C., has taken over the same position in the company's offices here. He is succeeded at Prince Rupert by Frederick Conroy, formerly with the Canadian Bank of Commerce.



***In the 'Post-War Plans'
of Many Farm Families***

The BEN-HUR Farm Locker Plant

Talk to any farmer about a farm locker plant and his first comment will be, "wish we had it now." And he'll follow with the promise that food freezing and frozen storage is the FIRST thing he's going to add after the war.

This is evidence of your future market for new BEN-HUR FARM LOCKER PLANTS—a volume market ready just as soon as they can be produced.

Let us put your name on the list to receive complete data and sales information on BEN-HUR FARM LOCKER PLANTS, when this data can be released.

BEN-HUR MANUFACTURING CO.
634 E. Keefe Ave. Milwaukee 12, Wis.



**Today . . . Back Our Fighting
Men with MORE War Bonds**

Remember...

BEN-HUR

Public Will Soon Find That Small Units Won't Meet Family's Needs, Tressler Says

(Concluded from Page 24, Column 5)

**Users Must Be Taught
Proper Freezing Methods**

The more available we make the information concerning the correct methods of preparing and freezing of foods, the better will be the average quality of the product. We now have a wonderful opportunity to see to it that everyone owning a home freezer and every locker plant operator learns how to prepare and freeze foods of superior quality.

It has been stated that 192 manufacturers are planning to make freezers in the postwar era. Undoubtedly there will be many two-temperature household refrigerators made which will have a large compartment for cool storage and a relatively small compartment for freezing of foods and the storage of frozen foods. It is probable that most of these frozen food compartments, designed primarily for the storage of frozen foods, may be ill-adapted for the freezing of foods.

Expect Novel Types

There will undoubtedly be the lift-top chest type freezers of various sizes and shapes manufactured in the postwar era. Some manufacturers will try upright or side-opening freezers. Many will also make large walk-in freezers. Undoubtedly, there will be novel types different from anything yet offered.

Some persons are confident that the great demand will be for 4 and 6 cu. ft. home freezers. Since these will be offered at a relatively low price, when compared to larger models, it is probable that the immediate demand will be for such small freezers.

In recent years, the size of the best selling model refrigerator has increased materially. It is likely to be the same with home freezers. There is even greater reason why the public will soon turn to the larger sizes. A 4 cu. ft. freezer will hold only 100 to a maximum 200 pounds

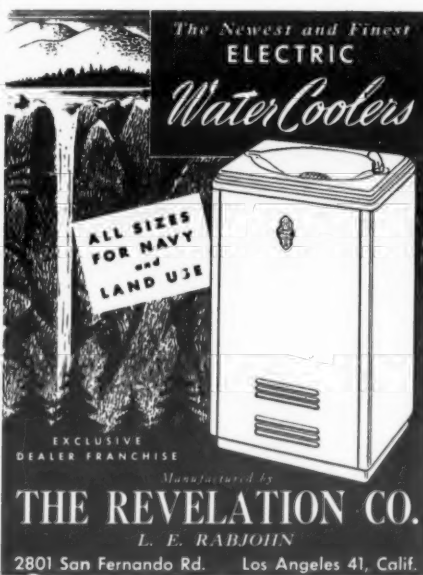
of food. This quantity is small even for the small family.

If a person purchases a home freezer and has a farm or large garden, he will soon find that a 4 or 6 cu. ft. freezer is entirely inadequate. It is my opinion that the farmers will want freezers of 24 cu. ft. capacity or greater. Further, it is evident that the farmer will have more use for a freezer than anyone else. Because of these facts, we can count on a very large demand for the relatively large size freezers.

In conclusion I should like to say that during the past two years you have been protected by the wartime restrictions on new plant construction in that town down the road or on the other end of main street. We hope that those limitations may soon be removed.

Then, if not before they are, you should be ready with a postwar plan for improving your service. I feel you are making a distinct contribution to the food preservation program during this war.

In the postwar period, as in the



WANTED

Enquiries from United States manufacturers
interested in the

CANADIAN MARKET

Chalco maintains two modern factories in Canada for the production and assembly of stamped, rolled and machined metal products, for the refrigeration, air-conditioning and heating industry.

May we suggest that by having your product manufactured and assembled in Canada, you will be on a permanent, economic basis to compete in the Canadian market.

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STEEL
PRODUCTS**
LIMITED

CHATCO CUSTOM METAL PARTS
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**GENERAL SALES OFFICES: 512 C.P.R. BUILDING
TORONTO, CANADA**
*Manufacturing and assembling metal components for
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Kelvinator

condensing units

SEALED • OPEN

For your home — Remember Kelvinator Refrigerators, Electric Ranges, Water Heaters and Home Freezers . . . they, too, are famous for trouble-free performance.

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Sizes from
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20 h. p.

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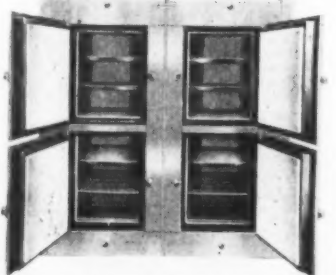
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AVAILABLE FOR IMMEDIATE DELIVERY
WITH OR WITHOUT CONDENSING UNITS
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Wilson ZEROSAFE Farm Freezer
Model FF-60 (Cap. 60 cu. ft.)
Self-Contained Models:
Up to 25 cu. ft.
Sectional Models: Up to 100 cu. ft.

1. From 1939 up to the time government limitation became effective, Wilson Reach-In Farm Freezer production was doubled and redoubled to meet rapidly growing demands.
2. All of the experience gained in years of designing and manufacturing Wilson ZEROSAFE is going into the production of this equipment on a huge new production schedule when the "green light goes on."

WILSON CABINET COMPANY
COMMERCIAL REFRIGERATION EQUIPMENT
SMYRNA DELAWARE

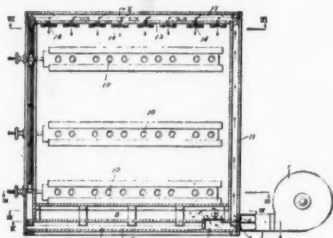
WILSON ALSO MAKES...

ZERO-FLOW and VERTI-COIL Milk Coolers
ZEROVAULT Walk-Ins for Frozen Food Storage
ZEROSAFE Reach-Ins for Storing and Dispensing Frozen Foods
NORMAL TEMPERATURE Walk-Ins & Reach-Ins

PATENTS

Weeks of Oct. 17 & 24

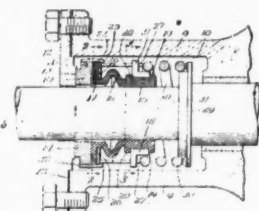
2,360,343. **AIR CONDITIONING APPARATUS.** Clyde H. Hill, Portland, Ore., assignor to Hill System Inc., Portland, Ore., a corporation of Oregon. Application March 2, 1942, Serial No. 432,975. 7 Claims. (Cl. 98-40.)



1. Temperature controlling devices for an enclosure comprising, a double walled room, a single source of air delivery connected to the spaces between the walls and ceiling, means for controllably dividing air delivery from said source into a plurality of streams, means for heating one or more of the streams for delivery to the vertical side wall spaces, said side walls being provided with groups of spaced openings connecting to the enclosure, independent means for varying the capacity of the groups of openings, another air stream from said air source

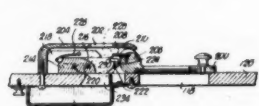
connected to the ceiling space the inner member of which is provided with groups of spaced openings, independent damper means for controlling the air capacity of said groups, the said double walled room being provided with a plurality of spaced vents near the bottom thereof, a balancing chamber beneath the room into which said vents discharge and a controlled outlet for said balancing chamber.

2,360,372. **FLUID SEAL.** Russel D. Snyder, Chicago, Ill., assignor to Crane Packing Co., Chicago, Ill., a corporation of Illinois. Application July 26, 1943, Serial No. 496,096. 5 Claims. (Cl. 288-11.)



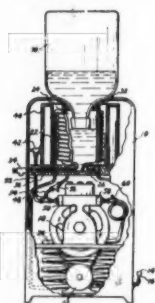
1. A shaft seal unit having a flexible and resilient sealing member with a pre-loading sleeve at one end, a flange at the other end, and a resilient expansible connection between them; a frictional contact disc engaging the flange having driving notches in its edge, a sleeve with ribs to engage the notches and a reducing shoulder to engage the side of the flange, and driving means comprising a confining ring surrounding the pre-loading sleeve and an extensible connection between the sleeve and the ring.

2,360,410. **COIN-CONTROLLED DOOR FOR DELIVERY COOLERS FOR PACKAGED GOODS.** Walton C. Ferris, Lincoln, Neb., assignor to Carton Coolers, Inc., Lincoln, Neb., a corporation of Nebraska. Original application Nov. 12, 1940, Serial No. 365,203. Divided and this application Sept. 14, 1942, Serial No. 458,213. 3 Claims. (Cl. 194-70.)



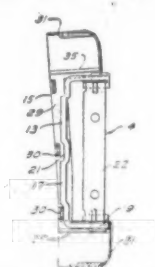
1. In a delivery cooler of the character described having a case provided with a delivery opening through which a selected package is withdrawn from the cooler, a door for the opening; a hinge cylinder on the door having a part projecting outwardly therefrom; and a locking member movably mounted on the case normally in the path of travel of the said part and provided with a coin receiving cavity, said locking member being shiftable by the projecting part when the door is partially opened to a position where the door may swing completely open when a coin is in said cavity.

2,360,491. **WATER COOLER.** Howard B. Halt, Philadelphia, Pa. Application July 1, 1943, Serial No. 493,009. 3 Claims. (Cl. 62-141.)



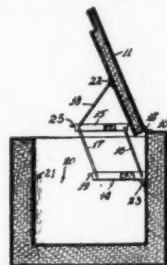
1. In a mechanically refrigerated water-cooler having a helically coiled evaporator, thermal insulation comprising a vacuum-tight compartment surrounding said evaporator and means to dissociate the compressing element from the remainder of the refrigerating apparatus and to connect it with the interior of said compartment for establishing a vacuum therein.

2,360,512. **HINGE.** Earl E. Nofsinger, Greenville, Mich., assignor, by mesne assignments, to Gibson Refrigerator Co., Greenville, Mich., a corporation of Michigan. Application April 6, 1942, Serial No. 437,823. 3 Claims. (Cl. 16-148.)



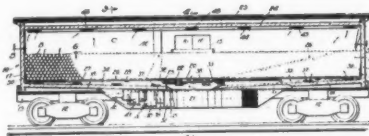
1. In combination, a hinge element having a base portion attached to one of a pair of relatively movable members, said base portion having a plurality of transverse grooves in the surface juxtaposed to said member, and an ornamental cover for said member, said cover having spaced side walls embracing said element and a plurality of straps connecting said side walls together, said straps being positioned in said grooves.

2,360,514. **REFRIGERATOR BOX.** Joseph H. Orley, Detroit, Mich. Application Feb. 18, 1944, Serial No. 522,882. 1 Claim. (Cl. 312-174.)



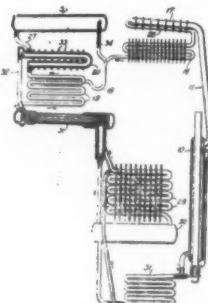
A receptacle having a top cover horizontally hinged on its rear edge to swing up and down, a two section shelf midway of and across the receptacle below the open top, the rear section being stationary, and means for mounting the forward section, comprising a link movably connecting the rear edges of the forward and rear sections and a link movably connecting the forward edges of the forward and rear sections, and a link movably connecting the forward edge of the forward section to the top cover, whereby the two sections may be aligned to form one complete shelf when the top cover is down, and the forward section is raised to be above the rear section when the top cover is raised, to provide access to the receptacle below the rear section through the space normally occupied by the forward section, the rear edge of the forward section being supported by the front edge of the rear section, when the cover is down.

2,360,686. **SELF AIR CONDITIONING BULK COMMODITY RAILWAY CAR.** Albert A. Johnson, New York, N. Y. Application April 17, 1941, Serial No. 388,971. 3 Claims. (Cl. 98-6.)



1. In a railway car, an enclosed box-like body having a ceiling, and floor proper provided with opposed unloading chutes midway of the length thereof; open floor sections supported in spaced relation to the floor proper, aligned air inlet duct sections intersected between the floor proper and the open flooring and extending centrally thereof from the unloading chutes to the ends of the body, a connecting duct section connecting the adjacent ends of the inlet duct sections, said inlet and connecting duct sections having laterally disposed outlet openings therein, an air outlet duct mounted within said body and extending the length of the ceiling and disposed in vertical alignment with the inlet and connecting duct sections, an air conditioning unit carried by the underside of the body having an air discharge outlet and an air inlet, a duct connecting the air discharge outlet with one of the inlet duct sections, and an air return duct connecting the air outlet duct with the air inlet of said unit, whereby air is circulated upwardly through the open flooring and through the height and length of the interior of said body.

2,360,834. **ABSORPTION REFRIGERATING APPARATUS.** Wilhelm Georg Kogel, Stockholm, Sweden. Application Feb. 10, 1943, Serial No. 475,333. In Sweden Jan. 26, 1942. 5 Claims. (Cl. 62-119.5.)



1. An absorption refrigeration system comprising a plurality of elements interconnected to provide a closed circuit for the circulation of a refrigerant, absorption solution and an auxiliary pressure balancing gas, said system including a condenser, a pressure vessel, an evaporator, a conduit connecting the condenser and evaporator, a second conduit connecting the condenser and pressure vessel, means connected to the evaporator for providing a path of flow for the auxiliary pressure balancing gas therethrough, and a conduit connecting the evaporator to the pressure vessel to provide a path of flow for the auxiliary pressure balancing gas to and from the pressure vessel and a path of flow for liquid refrigerant draining from the pressure vessel.

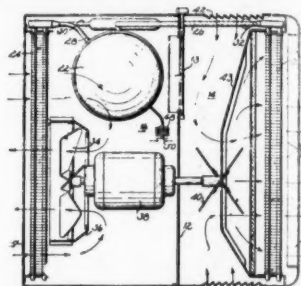
2,361,075. **ABSORPTION REFRIGERATOR OF THE CONTINUOUS TYPE.** Eric Wilfred Wiese, Lower North Adelaide, South Australia, Australia, assignor to William Queale, Glen Osmond, Australia. Application April 26, 1941, Serial No. 390,509. In Australia July 15, 1940. 10 Claims. (Cl. 62-119.5.)

1. In absorption refrigerators of the continuous type, the combination with an evaporator and an absorber, of a by-pass for the evaporator comprising a tube joining spaced sections of the evaporator whereby said evaporator and said by-pass form an evaporator circulatory system, a by-pass for the absorber whereby said absorber and its by-pass form an absorber



circulatory system, said last mentioned by-pass including a plurality of parallel channels, and a connection between the tube and each said channel to provide diffusion points, thereby promoting diffusion of the refrigerant from the evaporator into the absorber circulatory system.

2,361,090. **REFRIGERATING APPARATUS.** Ernest Dickey, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Jan. 30, 1942, Serial No. 420,895. Claims. (Cl. 62-6.)



6. A self contained room cooler adapted to be disposed in and to cool a room having a window in a wall thereof, said room cooler comprising a portion adapted to be disposed in said room adjacent said wall and a second portion adapted to project horizontally through the window an evaporator in said first portion, a condenser and a compressor disposed in said second portion adjacent the outer side thereof, fan means for effecting flow of air in thermal exchange with said condenser, fan means for circulating air in thermal exchange with said evaporator and fan

(Concluded on Page 27)

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 PAYMENT in advance is required for advertising in this column.

POSITIONS AVAILABLE

REFRIGERATION ENGINEER to work with an old reliable company in the development of farm and home freezers. Excellent opportunity for right man. Must have sound ideas and initiative. Outstanding education, experience, in first letter and indicate salary expected. Box 488, Ithaca, New York.

DRAFTSMEN. UNUSUAL opportunity for refrigeration draftsmen and engineers. Give education, experience to us in your first letter; also salary expected. Those engaged in defense work cannot be considered. **INTERNATIONAL HARDWARE CO.,** 2626 W. 31st Blvd., Chicago, Ill. Refrigeration Division.

MECHANICAL ENGINEER experienced in the design of refrigerating compressors and auxiliary equipment by a large Mid-West manufacturer. Reply confidential. Position permanent with excellent opportunity. Box 1622, Air Conditioning & Refrigeration News.

PROMINENT MANUFACTURER of Control Valves for Refrigeration and Air Conditioning wants AAI Sales Agent for Detroit territory. Must have technical ability and respect of manufacturers and jobbers. Commission Compensation. Write full details. Box 1640, Air Conditioning & Refrigeration News.

REFRIGERATION ENGINEER with metal fabrication experience to act as Assistant Chief Engineer with Midwest manufacturer of commercial equipment. Must be capable of assuming charge of Engineering Department and fully versed in modern shop practice and procedures. Position permanent. Salary not less than \$6,000 per year. Box 1636, Air Conditioning & Refrigeration News.

SALES REPRESENTATIVE. Refrigeration firm doing large export business has opening for Spanish-speaking representative with good experience refrigeration sales work. Write giving full details, experience, and references. Box 1634, Air Conditioning & Refrigeration News.

SALESMEN and counter men, experienced. West Coast refrigeration supply jobber. Permanent with postwar future. Salary open. Box 1645, Air Conditioning & Refrigeration News.

WANTED: Application and Development Refrigeration Engineer by well known manufacturer of Condensing Units. Permanent job offering wide range of activity and responsibility. Write Box 1635, Air Conditioning & Refrigeration News.

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"NO-FROST" METHOD WITH SPRAY COOLERS

...gives always full capacity because there is no interruption for defrosting at sub-zero temperatures; protects quality in foods.

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Heavy-Duty Storage Type FOR

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MAN CAPABLE of assuming complete charge of parts department for well established southern Ohio refrigeration parts jobber. Give full details including age, experience, education, family status and salary required. Recent snapshot helpful. Excellent opportunity for right man. Box 1639, Air Conditioning & Refrigeration News.

PERMANENT POSITION for capable, energetic, experienced commercial refrigeration and air conditioning service man with aggressive, well established firm in Rocky Mountain area, handling Frigidaire service and sales on Commercial, Apartment House, and Air Conditioning. Attractive wages. Applications should be complete as to experience and training. Box 1638, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

HUSMANN 68 cubic foot porcelain reach-in refrigerators. Brand new. Other sizes available. General Electric self-contained milk coolers 4 and 6 can capacity. All sizes blower diffusers and condensing units. 13 and 20 cubic ft. freezer cabinets. Phone Rittenhouse 6359 or write **JORDON REFRIGERATOR CO.,** 235 N. Broad St., Philadelphia 7, Pa.

250 FRIGIDAIRE model "N," "W350," "W233," and "C." All with 110-220 V. 60 cycle. REP. IND. Motors. Remanufactured ice cream cabinets. Send for list and price. **EDISON COOLING CORP.,** 310 E. 149 St., New York 51, N. Y.

OFFERING for immediate delivery: Ice making coils, 4 to 16 tray size; commercial blowing coils; Reach-in refrigerators, 20 and 30 cu. ft.; electric water coolers; condensing units. Specifications on request. Priorities required. **MANN, 595 Sixth Ave.,** New York 11, N. Y.

ELECTRIC WATER coolers. Industrial and cafeteria models, blower coils and milk coolers. Immediate delivery. All new guaranteed equipment of standard make. Prices right. Write or wire today. **RAMSEY-BENNETT CO.,** 727 Bolivar Road, Cleveland 15, Ohio.

REACH-IN REFRIGERATORS. 35 cubic foot capacity. Four doors. All steel construction. Glass-wool insulation. Porcelain interior. Baked sprayed white exterior. Sturdy grid-type steel shelves. Diffuser type coil. \$410.00 net, including self-contained 1/2 H.P. Universal compressor, ready to plug in. **GENERAL REFRIGERATOR CO.,** 5400 Eadom St., Philadelphia 37, Pa.

ICE REFRIGERATED bottle coolers. Three-case capacity. Streamlined. All steel, heavily insulated. Casters. Also, for cooling fish, storing cracked ice, etc. Suitable for homes. \$18.00 net, F.O.B. Philadelphia. New. No Priority. Streamlined. 100 bottle capacity size, \$36.50 net. Convertible for mechanical operation. **GENERAL REFRIGERATOR COMPANY,** 5400 Eadom Street, Philadelphia 37, Pa.

BUILDING SOLD. Forced to liquidate entire stock of new and used equipment. Unable to obtain help to move tremendous stock. Compressors, receivers, condensers, pulleys, fittings, 100 Frigidaire "N" units, Kelvinator units, others. New Fedder heat interchangers, floats, evaporators, air cooled condensers. **DENNETT, 311 Canal St.,** New York City.

THE ADVERTISEMENT appearing in the Nov. 6 issue of the Refrigeration News, "Lipman, 1/2 hp. units for sale on rated orders," was inserted to dispose of four machines. We have no more machines for sale at this time, but we wish to thank everyone for their inquiries. **BLUE FLASH REFRIGERATION CO.,** 3939-41 Broadway, Kansas City, Mo.

POSITIONS WANTED

SALES ADMINISTRATOR, experienced in commercial industrial refrigeration, air conditioning applications desires contacting successful service organization, preferably midwestern. Interested in organizing postwar sales organization. Willing to make investment or on profit sharing basis. Business and personal references available on request. Replies kept in strict confidence. Box 1643, Air Conditioning & Refrigeration News.

SALES ENGINEER seeking position with progressive manufacturer or distributor of refrigeration equipment or accessories. Midwest territory preferred. Age forty-one. In refrigeration since 1926 with commercial, industrial air conditioning experience. Now engaged in sales administrative capacity with old concern. Successful record, references available. Replies confidential. Box 1642, Air Conditioning & Refrigeration News.

REFRIGERATION ENGINEER, well qualified in the design and manufacture of refrigerating units and cabinets of all types, including air conditioners, wishes to contact manufacturers planning postwar projects in these fields. Box 1637, Air Conditioning & Refrigeration News.

MAN with eighteen years experience in refrigeration. Remodeling, rebuilding, commercial and industrial installations. Years experience in independent service for all types. Capable of specifications for large or small installations. Wide range in low temperature work. Prefer position with manufacturer or large distributor. Box 1644, Air Conditioning & Refrigeration News.

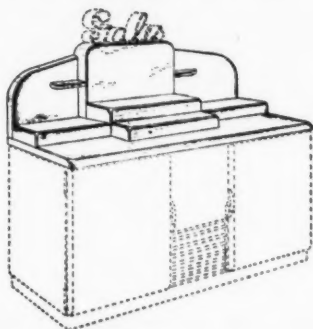
MANUFACTURER'S REPRESENTATIVE. Commercial refrigeration application engineer, nine years with one company. Experience as commercial manager, contacting dealers and distributors and direct selling. Would travel out of New York office and represent manufacturer exclusively or sideline. Can finance self and carry stock if necessary. Box 1641, Air Conditioning & Refrigeration News.

Patents (Cont.)

(Concluded from Page 26, Column 5)

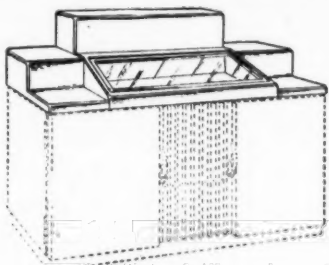
discharging the air into said room, a motor for operating one of said fan means, means for reducing the speed of said motor for night time operation, and separate means for rendering said last named means ineffective.

139,162. DESIGN FOR A MERCHANTISE DISPLAY CABINET. Hari C. Timmis, Kendallville, Ind., assignor to McCray Refrigerator Co., Kendallville, Ind., a corporation of Indiana. Application July 15, 1944, Serial No. 114,411. Term of patent 7 years. (Cl. D80-11.)



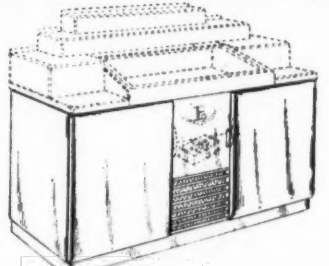
The ornamental design for a merchant display cabinet, substantially as shown and described.

139,163. DESIGN FOR A MERCHANTISE DISPLAY CABINET. Hari C. Timmis, Kendallville, Ind., assignor to McCray Refrigerator Co., Kendallville, Ind., a corporation of Indiana. Application July 15, 1944, Serial No. 114,412. Term of patent 7 years. (Cl. D80-11.)



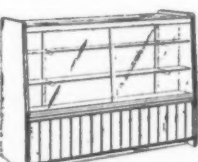
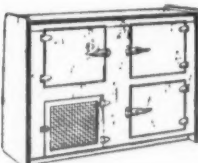
The ornamental design for a merchant display cabinet, substantially as shown and described.

139,164. DESIGN FOR A MERCHANTISE DISPLAY CABINET. Hari C. Timmis, Kendallville, Ind., assignor to McCray Refrigerator Co., Kendallville, Ind., a corporation of Indiana. Application July 15, 1944, Serial No. 114,413. Term of patent 7 years. (Cl. D80-11.)



The ornamental design for a merchant display cabinet, substantially as shown and described.

139,202. DESIGN FOR A REFRIGERATED DISPLAY CABINET. Alfred Beaudry, Los Angeles, Calif. Application Aug. 1, 1944, Serial No. 114,673. Term of patent 7 years. (Cl. D80-11.)



The ornamental design for a refrigerated display cabinet, as shown.

New 'Use' Booklet Covers All G-E Refrigerators

BRIDGEPORT, Conn.—Care and operating information on every General Electric Co. refrigerator manufactured from 1926 to the present is contained in a new customer booklet, "How to Use Your General Electric Refrigerator," just published by the appliance product service section.

Currently being used at G-E's series of service training meetings, the booklet was published in answer to many requests for a universal instruction book, the company said.

Considerable attention is devoted to operation of controls of the various refrigerator models, with extensive use of pictures and simple copy to make it easy for the housewife to follow the instructions.

Other subjects include "How to Store Foods," "How to Clean," and "How to Protect When Not in Use." One section tells how to find model numbers of the cabinet and machine.

The booklet is available through G-E distributors at five cents a copy.

Goldberg's Annual Party Planned For Dec. 14

CHICAGO—Herman Goldberg, Chicago manufacturers' representative, will hold his eighth Refrigeration Industry Christmas Party Dec. 14 in the Gold Coast room of the Drake hotel here.

Plans are being made to accommodate 800 guests. There will be entertainment drawn from star acts playing in Chicago at the time.

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- Instantaneous Water and Beverage Coolers.
- Oil Separators.
- Two-Temperature Valves.
- Accumulator Heat Exchangers.
- Equalizer Tanks.
- Controlled Temperature Processing Units.
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IMPERIAL TORPEDO DEHYDRATOR

One piece streamlined shell—fewer joints—no soft solder—less chance of leakage. Copper and brass construction. Packed with "Silica Gel". Built in sizes up to 7 h.p.
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Patented CROSS-FIN COILS—
 Bare Tube Coils—
 Humi-Temp Forced Convection Units—
 Zinc Fused Steel Plate Coils—
 Disseminator Pans—
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 Evaporative Condensers—
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 Industrial Units

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PRIME SURFACE Cold Plates

FOR MAXIMUM EFFICIENT REFRIGERATION

★ For Locker Plants, Sharp Freezing, Ice Cream Cabinets, Hardening Rooms, Soda Fountains, Storage Rooms, Milk Coolers, Liquid Cooling, Food Counters and other similar uses.

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Stangard Facilities are contributing to the production of materials for our National Defense.

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Over 7,500,000!

Thanks to you servicemen for this vote of confidence in Ranco controls—OVER SEVEN AND A HALF MILLION put into service, and more going in every day.

There's only one basic reason for your reliance on Ranco Controls—their dependable performance. They're made of the highest quality materials available, accurately fabricated, each sub-assembly tested with the parts in plain view.

You can install Ranco Controls with pride in their appearance, confidence in their dependable performance.

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 COLUMBUS 1, OHIO

GENERAL DOMESTIC CONTROL

Constant Cut-in Rancostats

RJS-830, power element 25% tube, 1/4" dia. bulb, lowest cut-out -5° F., highest cut-in 45°. Factory setting: normal cut-out 15°, cut-in 28°, defrost cut-in 40°. RJS-1080, similar to RJS-830 except power element 48 1/2" long, 3/32" dia. straight capillary tube. Factory setting: normal cut-out 7°, cut-in 23°, defrost cut-in 40°.

Depend on Your Ranco Jobber

For all types of Pressure and Temperature Controls—commercial and domestic—depend on the advice of your Ranco jobber. He has the exact control you need, or can recommend a simple adaptation.

Program for A.S.R.E. Meeting Announced

(Concluded from Page 1, Column 2)

"The History of Refrigeration"—Harry Sloan, Vilter Mfg. Co., Milwaukee, past president of the A.S.R.E.

"Heat Operated Refrigerated Cycles"—Dr. R. S. Taylor, Servel, Inc., Evansville, Ind.

Presentation of Honorary Membership in the A.S.R.E. to George A. Horne, past president of the society.

"Moist Air Research"—Dean John A. Goff, Towne Scientific School, University of Pennsylvania, Philadelphia.

TUESDAY, DEC. 12

9:30 a.m.—Second technical session, Vice President Charles S. Leopold presiding.

"Differential Temperature Expansion Valves"—F. Y. Carter, Detroit Lubricator Co., Detroit.

"Control of Evaporative Pressures"—Walter A. Grant, Carrier Corp., Syracuse, N. Y.

"Pipe Insulation for Steady and Intermittent Refrigeration Service"—W. P. Berggren and R. L. Perry, University of California, Davis, Calif.

12:30 p.m.—A.S.R.E. welcome luncheon—speaker to be announced.

2:00 p.m.—Third technical session, Vice President John F. Stone presiding.

"Home Freezers"—Dr. D. K. Tresler, General Electric Co., Bridgeport, Conn.

"Quick Freezing Performance of an Experimental Sub-Zero Food Freezer"—Prof. J. E. Nicholas, Pennsylvania State College, State College, Pa.

"The Future of Commercial Freezing"—Richard C. Poole, General Foods Corp., New York City.

WEDNESDAY, DEC. 13

9:30 a.m.—Fourth technical session, Treasurer John G. Bergdoll, Jr., presiding.

"Powder Metallurgy"—A. J. Langhammer, Airtemp Division, Chrysler Corp., Dayton, Ohio.

"Refrigeration for Penicillin Manufacture"—Clifford F. Holske, Vilter Mfg. Co., New York City.

"Refrigeration as Applied to Lyophilization"—George A. Belsky, Mance Corp., New York City.

Installation of officers for 1945.
12:30 p.m.—Luncheon meeting—A.S.R.E. Council.

David Salsbury Promoted By Westinghouse Supply

(Concluded from Page 1, Column 4)

subsidiary of Westinghouse, in normal times sells home appliances through retailers, and apparatus and supplies directly to customers, doing approximately \$125,000,000 worth of business annually.

Mr. Salsbury started his career with the Northern Electric Co., Calgary, Canada, in 1915.

He became affiliated with the Electric Railway & Manufacturers' Supply Co. of San Francisco in 1918, which was acquired by Westinghouse Electric Supply Co. two years later. In 1933 he became manager of the supply company's Salt Lake City branch, when Westinghouse took over the Inter-Mountain Electric Co.

Mr. Salsbury was named north Pacific district manager with offices in Seattle, Wash., in 1939 and four years later he was transferred to the New York office as general manager for the company.

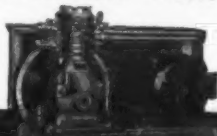


WAR INDUSTRIES NEED REFRIGERATION

The use of refrigeration in industry has been greatly accelerated by the war. In peacetime this expansion may logically be expected to continue. Write for literature.

GENERAL REFRIGERATION DIVISION

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Beloit, Wis.



Lipman
AUTOMATIC REFRIGERATION

CMP 5A Change Aids Government Agencies

WASHINGTON, D. C.—Governmental agencies and institutions will be able to obtain minor capital additions costing up to \$500 under the provisions of Controlled Materials Plan Regulation 5A as amended Nov. 7, WPB announced through the Office of Civilian Requirements' Government Bureau.

The limit previously had been \$100. Liberalization of the order, accomplished by amending Paragraph (b) (6) and corresponding paragraphs in Interpretations 5, 6 and 7, puts the agencies and institutions that use CMP 5A on the same basis as businesses and industries that have been operating under CMP 5 insofar as this provision is concerned.

CRMA Studies Drive For Distribution

(Concluded from Page 1, Column 4)

publication of an "Operations Manual" now being compiled. It will present typical profit and loss statements covering the several types of distribution, broken down to show all items of expense that must be recovered on each sale, to insure a satisfactory profit for the management and salesmen's salaries commensurate with the energy devoted to their jobs.

Also included will be actual financial statements of successful operators, to demonstrate profitable post-war opportunities.

Based on a recently completed survey of trends in the retail food business, the Committee concludes that for several years after the war the demand among merchants for equipment will tax the industry's ability to produce in sufficient volume.

It was brought out that the average food retailer not only has made money consistently, but the majority have set up cash reserves already earmarked for complete modernization of their stores as soon as the brakes are released.

Membership of the Committee, whose report will be the feature of the coming meeting of the Association, are, in addition to Chairman McMillan of Hussmann-Ligonier Co.; J. H. Coolidge of Sherer-Gillett Co.; J. W. Hart, McCray Refrigerator Co.; C. V. Hill, Jr., C. V. Hill & Co.; W. J. Stelpflug, Hussmann-Ligonier Co.; and Ernest L. Stultz, Viking Refrigerators.

NEWA Plans Survey On Appliance Selling

(Concluded from Page 1, Column 4)

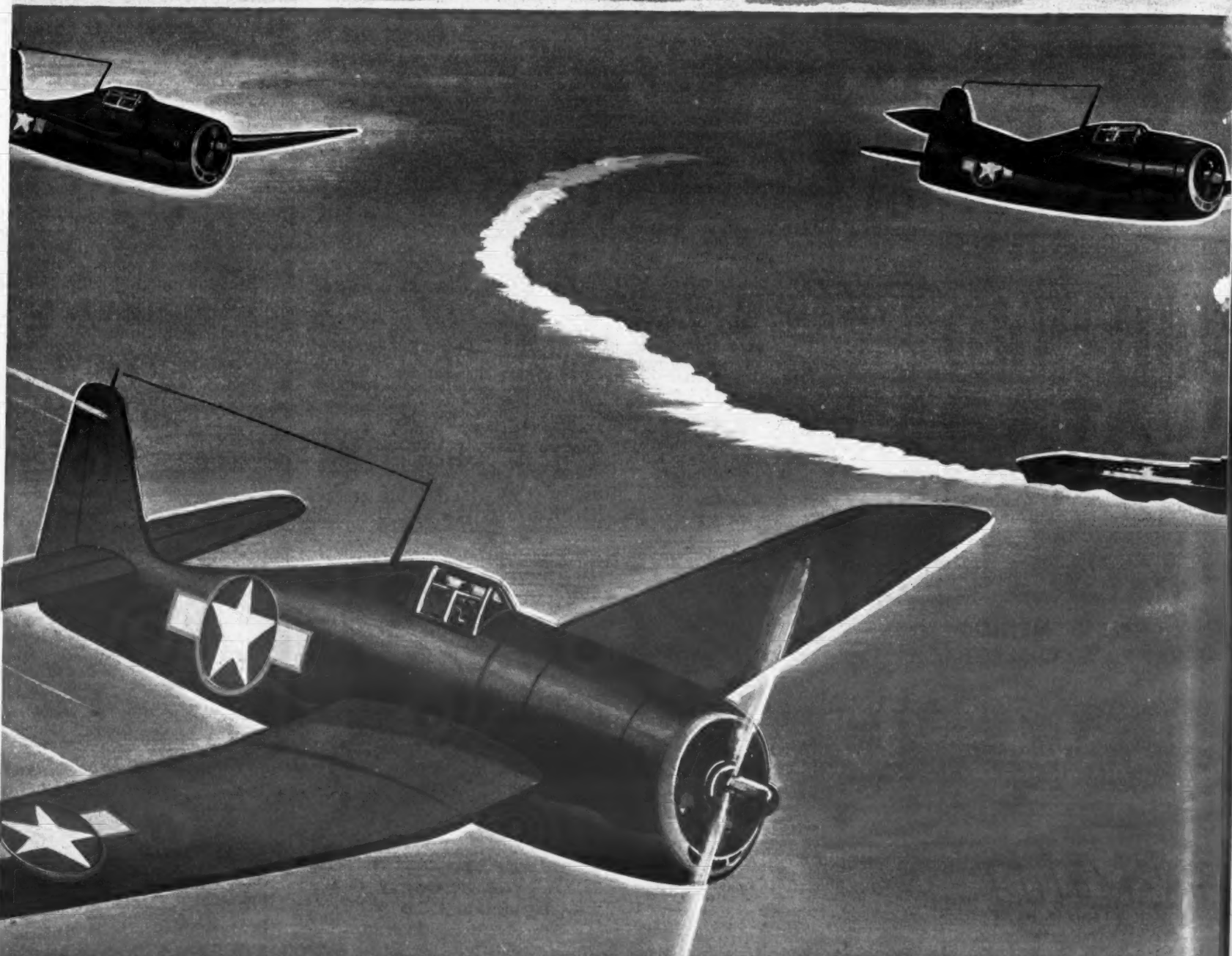
port of the survey will be supplied the press in order that the valuable data to be collected will be available to everyone concerned with the important subjects being covered.

Members of the committee are:

Peter Sampson (chairman), Sampson Electric Co., Chicago; F. V. Greusel, Greusel Distributing Corp., Milwaukee; A. F. Head, General Electric Supply Corp., Cleveland; R. C. Litchfield, Graybar Electric Co., Inc., New York City; J. T. Urban, Westinghouse Electric Supply Co., New York City; C. J. Zamoiski, M. Zamoiski Co., Baltimore.

STRIKING FORCE

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